Lincoln's Patent

DRAWER 4 VOCATIONS

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Abraham Lincoln's Vocations

Lincoln's Patent

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Vol II 32

March 10, 1849

Edmund Burke was
Commissioner of Patents

DS DNA IR RG

Records of the patent
office, Patented File
No 6469. (only Lincoln's
signatures are in his hand.
The drawing is now
missing from the file, but is
reproduced from Nicolay Hay - [illegible]

" Feb 28 (1849)

" Mr Ewbank is yet in ~~South~~ doubt. If the inclosed statement of the claim will satisfy our friends I have reason to think a patent may be obtained

" Yrs. truly

" Danl. Webster

" Mr Lincoln

"County of Washington

"District of Columbia

"On this 10th day of March 1849 before the subscriber, a Jus. Peace in and for the said county personally appeared the within named Abraham Lincoln and made solemn oath according to law, that he believed himself to be the original and first inventor of the within described improved manner of combining bouyant chambers with steam boats or other vessels and that he does not know or believe that the same has been before used or known; and that he is a citizen of the United States.

"J. L. Smith."

"These adjustable buoyant air chambers were secured to the sides of the vessel(which in this instance was an old-style Ohio steamboat) and were formed with top and bottom partitions composed of a plank or plate of metal of suitable stiffness and with flexible side portions of India rubber or textile material thoroughly water-proofed. These buoyant air chambers were very similar in construction and operation to an accordion or a blacksmith's bellows. The vessal was also supplied with a main shaft or shafts and with sliding spars or shafts, the latter passing down through the buoyant chambers and made fast to their bottoms; also with a series of ropes and pulleys, whereby by turning the main shaft or shafts in one direction the buoyant air chambers would be forced downward into the water and at the same time expanded and filled with air for buoying up the vessel by the displacement of the water; and by turning the shaft or shafts in an opposite directions the chambers would be contracted into a small space and secured against injury."

COPY
from
THE NATIONAL ARCHIVES
Record Group No.

To all whom it may concern:

Be it known that I, Abraham Lincoln, of Springfield, in the county of Sangamon, in the state of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steam boat or other vessel for the purpose of enabling their draught of water to be readily lessened to enable them to pass over bars, or through shallow water, without discharging their cargoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification. Similar letters indicate like parts in all the figures.

The buoyant chambers A. A. which I employ, are constructed in such a manner that they can be expanded so as to hold a large volume of air when required for use, and can be contracted, into a very small space and safely secured as soon as their services can be dispensed with.

Fig. 1. is a side elevation of a vessel with the buoyant chambers combined therewith, expanded;

Fig. 2. is a transverse section of the

6469-3

same with the buoyant-chambers contracted.

Fig 3. is a longitudinal vertical section through the centre of one of the buoyant chambers, and the box B. for receiving it when contracted, which is secured to the lower guard of the vessel.

The top g. and bottom h. of each buoyant chamber, is composed of plank or metal, of suitable strength and stiffness, and the flexible sides and ends of the chambers, are composed of india-rubber cloth, or other suitable water proof fabric, securely united to the edges and ends of the top and bottom of the chambers.

The sides of the chambers may be stayed and supported centrally, by a frame k, -as shown in Fig. 3, - or as many stays may be combined with them as may be necessary to give them the requisite fullness and strength when expanded.

The buoyant chambers are suspended and operated as follows: a suitable number of vertical shafts or spars D, D. are combined with each of the chambers, as represented in Fig. 1. 2 & 3; to wit: the shafts work freely in apertures formed in the upper sides of the chambers, and their lower ends are permanently secured to the under sides of the chambers: the vertical shafts or spars (D.D.) pass up through the top of the boxes B. B. on the lower guards of the vessel, and then through its upper guards, or some other suitable support to keep them in a vertical position.

The vertical shafts (D. D.) are connected to the main shaft C, which passes longitudinally through the centre of the vessel. - just below its upper deck, - by endless ropes E. E. as represented in Fig 2: the said ropes E. E. being wound several times around the main shaft C. then passing outwards over sheaves or rollers attached to the upper deck or guards of the vessel, from which they descend along the inner sides of the vertical shafts or spars D. D. to sheaves or rollers connected to the boxes B. B. and thence rise to the main shaft (C.) again.

The ropes E. E. are connected to the vertical shafts at i. i. as shown in Figs 1. & 2. It will therefore be perceived, that by turning the main shaft C. in one direction, the buoyant chambers will be expanded into the position shown in Fig 1; and by turning the shaft in an opposite direction, the chambers will be contracted into the position shown in Fig 2.

In Fig. 3. c, c, are check ropes made fast to the tops of the boxes B, B, and to the upper sides of the buoyant chambers; which ropes catch and retain ~~and~~ retain the upper sides of the chambers when their lower sides are forced down, and cause the chambers to be expanded to their full capacity. By varying the length of the check ropes, the depth of immersion of the buoyant chambers can be governed. A suitable number of openings m, m, are formed in the upper sides of the buoyant chambers, for the admission and emission of air when the chambers are expanded and contracted.

The ropes f. f. that connect the main shaft C, with the shafts or spars D, D, (rising from the buoyant chambers,) may be passed from one to the other in any direction that may be deemed best, and that will least incommode the deck of the vessel; or other mechanical means may be employed as the medium of communication between the main shaft and the buoyant chambers, if it should be found expedient.

I shall generally make the main shaft C. in as many parts as there

6469-6

are corresponding pair of buoyant chambers, so that by coupling the sections of the shaft together, the whole of the chambers can be expanded at the same time, and by disconnecting them, either pair of chambers can be expanded, separately from the others as circumstances may require.

The buoyant chambers may be operated by the power of the steam engine applied to the main shaft C. in any convenient manner, - or by man power.

Where the guards of a vessel are very high above the water, the boxes B.B. for the reception of the buoyant chambers when contracted, may be dispensed with, and the chambers be contracted and ~~[illegible]~~ by drawing them against the under side of the guards. Or, protecting cases may be secured to the under sides of the guards for the reception of the buoyant chambers when contracted.

When it is desired to combine my expansible buoyant chambers with vessels which have no projecting guards; shelves or cases must be strongly secured to their sides for the reception of the buoyant chambers.

I wish it to be distinctly understood, that I do not intend to limit myself to any particular mechanical arrangement in combining expansible buoyant chambers with a vessel, but shall vary the same as I may deem expedient, whilst I attain the same end by substantially the same means: 6469-7

$30 Fee [illegible]

What ~~I~~ claim as my invention and desire to secure by letters potent, is the combination of expansible buoyant chambers placed at the sides ~~or~~ ~~guards of a vessel~~, of a vessel, with the main shaft or shafts C, by means of the sliding spars or shafts D, which pass down through the buoyant chambers and are made fast to their bottoms, and the series of ropes and pullies, or their equivalents, ~~arranging longitudinally through the~~ ~~the vessel~~, in Such a manner that by turning the main Shaft or shafts in one direction, the buoyant chambers will be forced downwards into the water and at the same time expanded and filled with air for buoying up the vessel by the displacement of water; and by turning the shaft in an opposite direction, the buoyant chambers will be contracted into a small space and Secured against injury.

A. Lincoln

Witness
Z. C. Robbins
H. H. Sylvester

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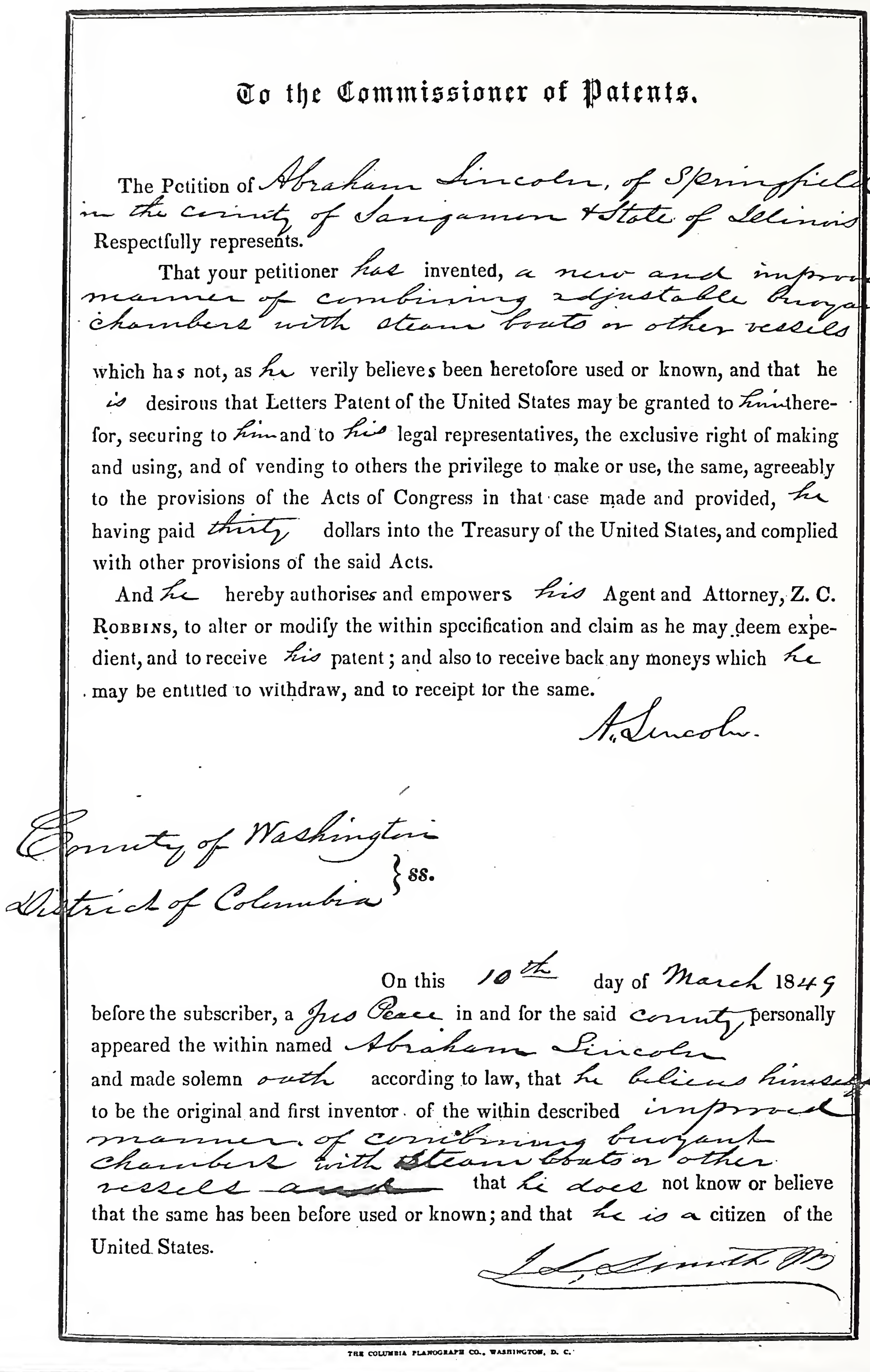


To the Commissioner of Patents.

The Petition of Abraham Lincoln, of Springfield in the county of Sangamon & State of Illinois Respectfully represents.

That your petitioner has invented, a new and improved manner of combining adjustable buoyant chambers with steam boats or other vessels

which has not, as he verily believes been heretofore used or known, and that he is desirous that Letters Patent of the United States may be granted to him therefor, securing to him and to his legal representatives, the exclusive right of making and using, and of vending to others the privilege to make or use, the same, agreeably to the provisions of the Acts of Congress in that case made and provided, he having paid thirty dollars into the Treasury of the United States, and complied with other provisions of the said Acts.

And he hereby authorises and empowers his Agent and Attorney, Z. C. Robbins, to alter or modify the within specification and claim as he may deem expedient, and to receive his patent; and also to receive back any moneys which he may be entitled to withdraw, and to receipt for the same.

A. Lincoln.

County of Washington
District of Columbia } ss.

On this 10th day of March 1849 before the subscriber, a Jus Peace in and for the said county, personally appeared the within named Abraham Lincoln and made solemn oath according to law, that he believes himself to be the original and first inventor of the within described improved manner of combining buoyant chambers with Steam boats or other vessels ~~and~~ that he does not know or believe that the same has been before used or known; and that he is a citizen of the United States.

J. L. Smith JP

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

ABRAHAM LINCOLN, OF SPRINGFIELD, ILLINOIS.

BUOYING VESSELS OVER SHOALS.

Specification forming part of Letters Patent No. **6,469**, dated May 22, 1849; application filed March 10, 1849.

To all whom it may concern:

Be it known that I, Abraham Lincoln, of Springfield, in the County of Sangamon, in the State of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessel for the purpose of enabling their draught of water to be readily lessened to enable them to pass over bars, or through shallow water, without discharging their cargoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification. Similar letters indicate like parts in all the figures.

The buoyant chambers A, A, which I employ, are constructed in such a manner that they can be expanded so as to hold a large volume of air when required for use, and can be contracted, into a very small space and safely secured as soon as their services can be dispensed with.

Fig. 1, is a side elevation of a vessel with the buoyant chambers combined therewith, expanded;

Fig. 2, is a transverse section of the same with the buoyant chambers contracted.

Fig. 3, is a longitudinal vertical section through the centre of one of the buoyant chambers, and the box B, for receiving it when contracted, which is secured to the lower guard of the vessel.

The top *g*, and bottom *h*, of each buoyant chamber, is composed of plank or metal, of suitable strength and stiffness, and the flexible sides and ends of the chambers, are composed of india-rubber cloth, or other suitable water-proof fabric, securely united to the edges and ends of the top and bottom of the chambers.

The sides of the chambers may be stayed and supported centrally by a frame *k*, as shown in Fig. 3, or as many stays may be combined with them as may be necessary to give them the requisite fullness and strength when expanded.

The buoyant chambers are suspended and operated as follows: A suitable number of vertical shafts or spars D, D, are combined with each of the chambers, as represented in Figs. 2 and 3, to wit: The shafts work freely in apertures formed in the upper sides of the chambers, and their lower ends are permanently secured to the under sides of the chambers: The vertical shafts or spars (D, D,) pass up through the top of the boxes B, B, on the lower guards of the vessel, and then through its upper guards, or some other suitable support, to keep them in a vertical position.

The vertical shafts (D, D,) are connected to the main shaft C, which passes longitudinally through the centre of the vessel—just below its upper deck—by endless ropes *f*, *f*, as represented in Fig. 2: The said ropes, *f*, *f*, being wound several times around the main shaft C, then passing outwards over sheaves or rollers attached to the upper deck or guards of the vessel, from which they descend along the inner sides of the vertical shafts or spars D, D, to sheaves or rollers connected to the boxes B, B, and thence rise to the main shaft (C,) again.

The ropes *f*, *f*, are connected to the vertical shafts at *i*, *i*, as shown in Figs. 1 and 2. It will therefore be perceived, that by turning the main shaft C, in one direction, the buoyant chambers will be expanded into the position shown in Fig. 1; and by turning the shaft in an opposite direction, the chambers will be contracted into the position shown in Fig. 2.

In Fig. 3, *e*, *e*, are check ropes, made fast to the tops of the boxes B, B, and to the upper sides of the buoyant chambers; which ropes catch and retain the upper sides of the chambers when their lower sides are forced down, and cause the chambers to be expanded to their full capacity. By varying the length of the check ropes, the depth of immersion of the buoyant chambers can be governed. A suitable number of openings *m*, *m*, are formed in the upper sides of the buoyant chambers, for the admission and emission of air when the chambers are expanded and contracted.

The ropes *f*, *f*, that connect the main shaft C, with the shafts or spars D, D, (rising from the buoyant chambers,) may be passed from one to the other in any direction that may be deemed best, and that will least incommode the deck of the vessel; or other mechanical means may be employed as the medium of communication between the main shaft and the buoyant chambers, if it should be found expedient.

I shall generally make the main shaft C, in as many parts as there are corresponding pairs of buoyant chambers, so that by coupling the sections of the shaft together, the whole of the chambers can be expanded at the same time, and by disconnecting them, either pair of chambers can be expanded, separately from the others as circumstances may require.

The buoyant chambers may be operated by the power of the steam engine applied to the main shaft C, in any convenient manner, or by man power.

Where the guards of a vessel are very high above the water, the boxes B, B, for the reception of the buoyant chambers when contracted, may be dispensed with, and the chambers be contracted by drawing them against the under side of the guards. Or, protecting cases may be secured to the under sides of the guards for the reception of the buoyant chambers when contracted.

When it is desired to combine my expansible buoyant chambers with vessels which have no projecting guards; shelves or cases must be strongly secured to their sides for the reception of the buoyant chambers.

I wish it to be distinctly understood, that I do not intend to limit myself to any particular mechanical arrangement, in combining expansible buoyant chambers with a vessel, but shall vary the same as I may deem expedient, whilst I attain the same end by substantially the same means.

What I claim as my invention and desire to secure by letters patent, is the combination of expansible buoyant chambers placed at the sides of a vessel, with the main shaft or shafts C, by means of the sliding spars or shafts D, which pass down through the buoyant chambers and are made fast to their bottoms, and the series of ropes and pullies, or their equivalents, in such a manner that by turning the main shaft or shafts in one direction, the buoyant chambers will be forced downwards into the water and at the same time expanded and filled with air for buoying up the vessel by the displacement of water; and by turning the shaft in an opposite direction, the buoyant chambers will be contracted into a small space and secured against injury.

A. LINCOLN.

Witness:
Z. C. Robbins,
H. H. Sylvester.

92,5TB

A. LINCOLN.

MANNER OF BOUYING VESSELS.

No. 6,469. Patented May 22, 1849.

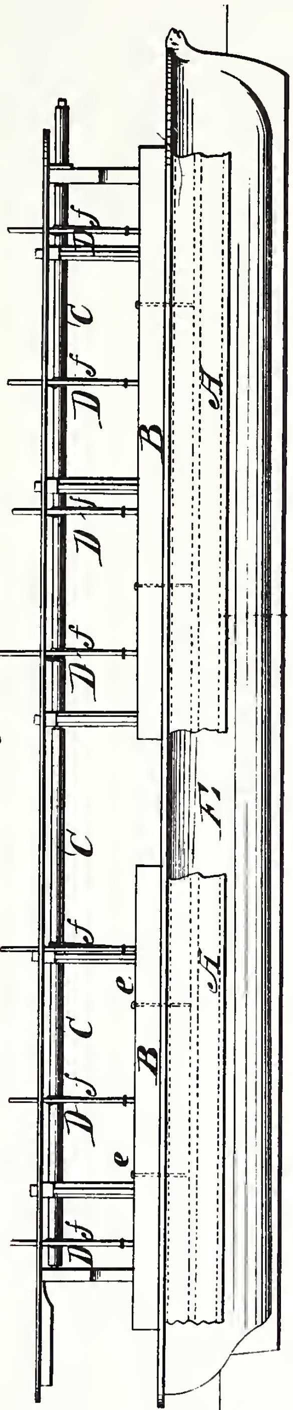


Fig. 1.

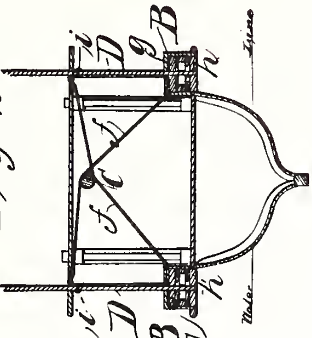


Fig. 2.

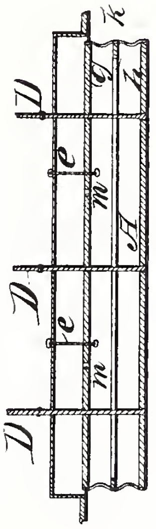


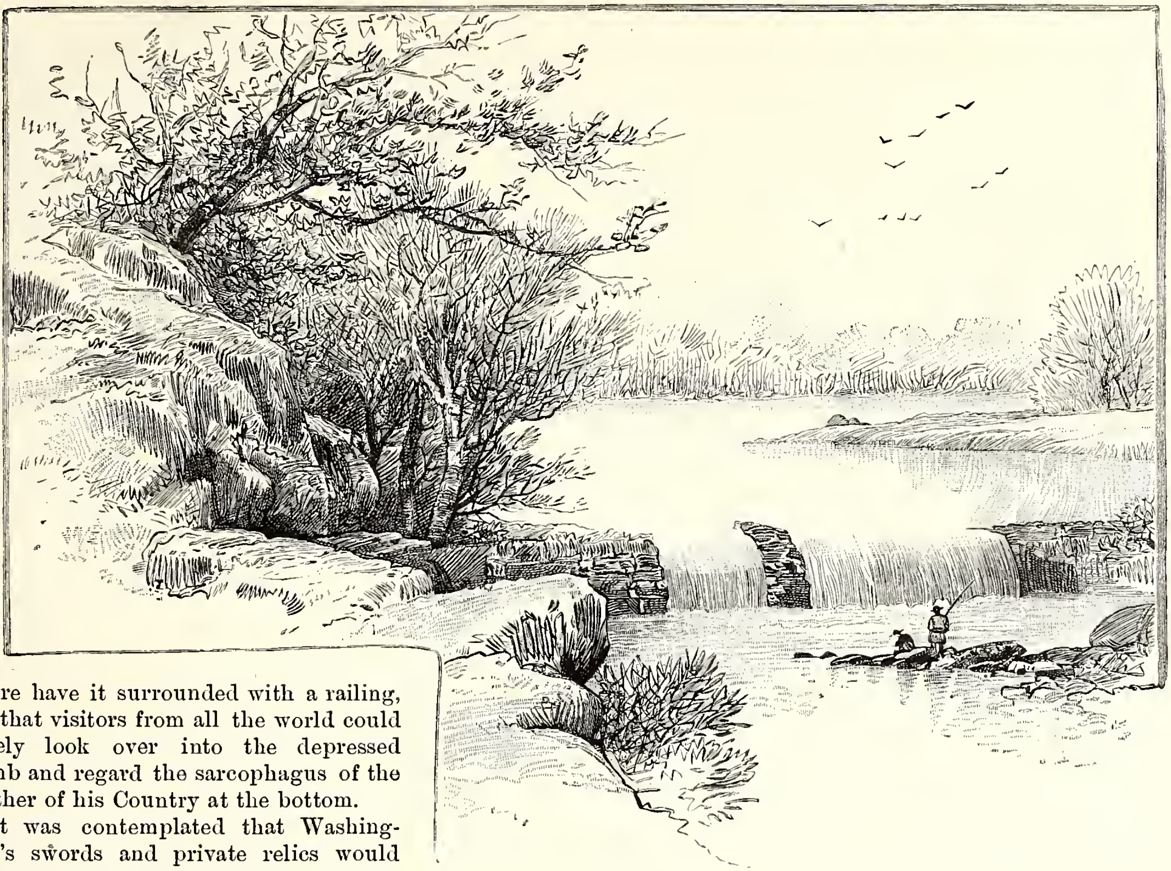
Fig. 3.

Lincoln's Shoal Water Steamboat.

"How did you first become acquainted with Mr. Lincoln?" asked the Star reporter of Mr. Zenas C. Robbins.

"I met with Mr. Lincoln first in 1847, at which time he was in congress," said Mr. Robbins. "Mr. E. B. Washburne brought him to Mrs. Janney's boarding house, where myself and family boarded, and they spent the evening with us. A few days afterward, when I was sitting in my office, corner of F and Seventh streets, the door opened and Mr. Lincoln's tall form marched into the room. He had under his arm a model of a western steamboat. He placed the model on the table and said he had made an improvement in the western steamboat that might be valuable. At that time there were no railroads in the west. Most of the population was located on or near the banks of the rivers, and almost the only means of conveyance they had was by steamboat. The Illinois river, near which Mr. Lincoln lived, and the Ohio river used to get distressingly low in the summer. A steamboat would run on to a sand bar and be kept there perhaps two weeks, until the passengers had gathered and consumed all the provisions for 20 miles around. Mr. Lincoln's invention provided for placing under the guards of the boat, buoyant chambers, expansible buoyant chambers, made of some waterproof material, with the parts so arranged and connected with the engines that when the boat got aground the whole power of the boilers could be exerted to depress these chambers, and more than double the width of the boat, and of course raise the boat in the water. Then the power would be applied to the wheels and the boat could again go on its way rejoicing. I told Mr. Lincoln that his device was novel, prepared the papers, and in due time obtained a patent. That patent can be seen now in the patent office, where the model is kept in a case by itself. The invention never was introduced, for the reason that Mr. Lincoln's time was taken up with more important matters. He had the largest legal practice in the west, and shortly after the time of which I speak entered upon his great debate with Douglas."
—Washington Star, Feb. 11, 1883.

Leslie's Weekly Sept. 1888



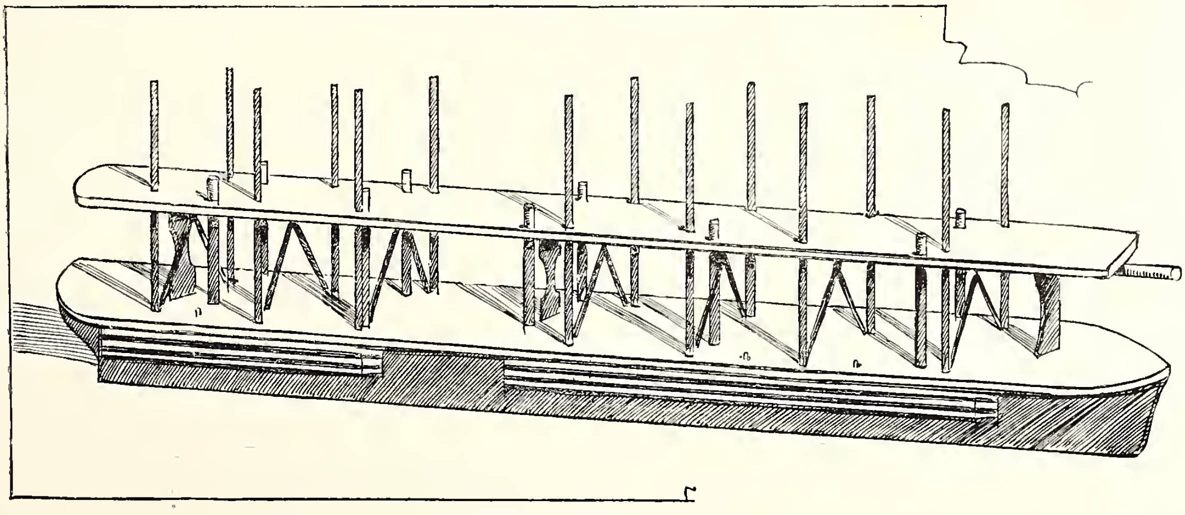
THE POND WHERE ROBERT FULTON TRIED HIS FIRST BOAT.

there have it surrounded with a railing, so that visitors from all the world could freely look over into the depressed tomb and regard the sarcophagus of the Father of his Country at the bottom.

It was contemplated that Washington's swords and private relics would also be deposited and exhibited there, and that the flags captured from the British would be displayed about the sides of the tomb. If this design had been carried out, the result would have been quite similar to that attained forty-five years later, in the magnificent case of marble constructed for the remains of the great Napoleon in the Hôtel des Invalides, Paris. In a sarcophagus of black Egyptian marble, hewn by the Mamelukes, repose the ashes of that relentless conqueror, and a few of the flags and trophies he captured are grouped in picturesque clusters around.

When Washington suddenly died of laryngitis, aged sixty-seven, in the last year of the century, President Adams surprised his stricken widow with the information that a tomb, to be enlarged to colossal size, had already been constructed for the nation's preserver in the very centre of its Capitol, and requested her permission to deposit there his remains with all military and civic honors. She declined. "The General," as she always called him when speaking of him, "knowing nothing of any public tomb, had left instructions that his body be laid in the family vault at Mount Vernon, and his directions must be obeyed."

So the tomb intended for Washington still awaits some masterful man who shall be deemed worthy of it. The roof has never been cut away to the rotunda overhead,



ABRAHAM LINCOLN'S BOAT.

the model of the river-boat which Abraham Lincoln got patented when he was a member of Congress, in 1847. It is about eighteen inches long, and is of red cedar, and Nicolay says that the tall inventor whittled it out with his jackknife. If this be true, young Lincoln was an admirably skillful whittler, for the model is not only symmetrical in its parts, but it is smooth and carefully finished, as if scraped with glass and rubbed down with emery-paper. The model represents a long and graceful river-boat, through whose outer decks, from stem to stern, on both sides, are inserted vertical poles, attached at their lower ends to horizontal bellows running beneath the lower guards near the water. The scheme seems to have been to open forcibly these huge bellows when the boat got aground, and by the pressure against the water to lift it over sandbars. The patent was called "A Contrivance for Lifting a Boat over Shoals."

Zenas C. Robins, who held offices of importance under Lincoln, said, in a recent conversation which this writer had with him: "I made Mr. Lincoln's acquaintance in 1847, when he first came to Congress from Illinois. E. B. Washburne brought him to my house one evening, and I remember how I was amused at the appearance of the loose-jointed and shambling member, with a big roll of 'something' under his arm. The mysterious bundle proved to be his model. At that period," continued Mr. Robbins, "the entire population of the country resided in a narrow fringe along the ocean and navigable rivers, and most of the travel was by boat. It was before there were many railroads built. Mr. Lincoln said: 'Now, I want to get this thing patented. The Ohio and Mississippi get very low in Summer, and if I can make boats so that they can hitch themselves over shoals by means of these stilts, it will greatly improve the facilities for travel.' He took the hull of the boat carefully in one hand, and used the mechanism with the other to show how to depress the buoyant chambers with a single movement of the upright. These, he explained, could be operated either by hand or steam. By these buoyant chambers, I should think the floating surface of the craft was increased nearly one-third. I got him the patent without trouble, and he paid, I think, fifty dollars."

I inquired if the device was ever used.

"No, I think not," said Mr. Robbins. "Railroads soon diverted traffic from the rivers, and Lincoln got deep in law and politics, and I don't think he ever received a dollar from it."

The little model has a conspicuous corner by itself, and the name of the illustrious martyr painted above attracts hundreds of curious visitors every day.

Robert Fulton's First Steamboat.

Fulton's first steamboat for business was the *Clermont*, launched into the Hudson at New York; but a whole year earlier he launched an experimental craft in Washington, and moved it cautiously around a little millpond.

I visited this bit of water recently, and took a sketch of it. It lies in Rock Creek, down back of suburban Kalorama—a name that will be familiar to multitudes of soldiers who were inmates of its great hospital during the war. Here, in 1805, lived Joel Barlow, the rich and distinguished poet of our early days, author of the "Columbiad," and long Minister to France. Some years before, he had formed Fulton's acquaintance in Paris, and now he invited the unlucky inventor to become a guest at his spacious mansion at the country's capital. Fulton abode here some two years, and during the Autumn of 1806 he finished his "model boat," and tried it on the millpond. Fulton was determined to avoid, in his coming exhibition on the Hudson River, the fatal faults which had caused his illstarred steam-vessel to sink in the Seine ten years before.

There seems to have been no steam-engine on board of this Kalorama craft, for the Watt & Boulton engine was not sent to this country till the next year, but for the first time paddles were arranged on the side, and the experiment was pursued for the purpose of ascertaining how far aft they should be set, and how they could be most effectively geared. They were turned by hand, and Fulton sat astern and steered the little boat about the pond, to his great delight. Thus, and here in Washington, he established those principles of navigation which he put into active service in August of 1807. He was quite poor at this period of his life, and it was understood in Washington that the merchant-poet not only entertained him, but paid all the mechanics who assisted him to build and set up his "queer contrivance" on Kalorama millpond.

RELIGIOUS MENDICANTS IN INDIA.

By S. F. Norris.

India swarms with religious mendicants, and one meets hundreds of them in the streets of the cities and villages of the Peninsula. Sometimes these beggars are clothed with skins, or they may be wrapped in yellow cloth, or in quilts composed of patches of all colors and kinds. They allow their hair to grow long, and, as it is never combed, it becomes so tangled that it looks more like the mane of an animal than human hair. Sometimes they twist jute in with the hair, and coil several yards of it around their heads.

These men are called Gosavis and Byrajis by the Hindoos, and Fakirs by the Mussulmans. They live in dens and caves of the earth, or in holes of their own digging, by the roadside, under trees, behind rocks, and in every place from which they can conveniently sally forth to beg for alms. They carry in one hand the "prayer-beads" and a rattle composed of brass rings, and in the other a brass or copper vessel to receive the food and money which will be given them. They are usually large men, and their faces and bodies are smeared with ashes until it is impossible to tell whether they are black or white. Degraded white men have been known to personate Fakirs, the ashes completely disguising them. All the natives, whatever their caste or religion, contribute to the support of these mendicants, and not one would dare refuse them a *pice*, or a handful of grain. They think there is great merit in giving to these very curious individuals on account of their piety, although in what their piety consists it is hard to say. And they fear the curses which they will receive if they do not give liberally. Let one of these Fakirs seat himself by the roadside, silently holding out the brass vessel, and every person who passes will drop something into it.

These are the men who hold their arms above their heads, in fixed positions, for months, or years even, until they become so stiff that they cannot be taken down. Or they clinch their hands until the long finger-nails grow into the flesh, and distort themselves in numberless ways to show their sanctity, knowing full well their receipts will be increased a hundredfold thereby.

While I was living in Bombay, a stalwart Gosavi came in from the country, one morning, and strode loftily through the city, his long, tangled hair and ragged, yellow cloth streaming behind him. He glanced neither to

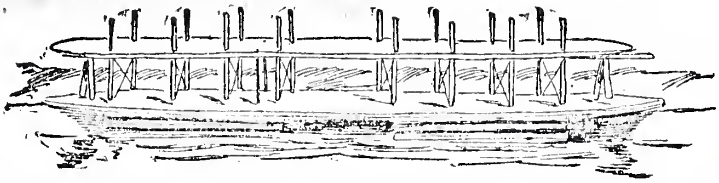
ABRAHAM LINCOLN'S INVENTION.

1851

A Device He Patented for Floating Steamboats Over Shallow Places.

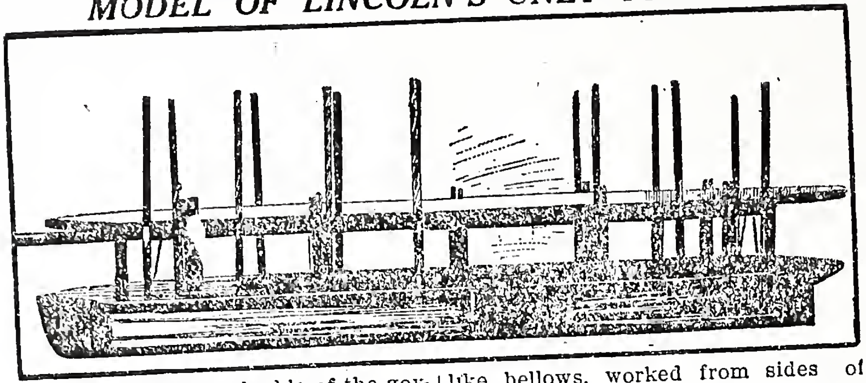
Mr. Edward F. Fenwick writes to the Washington *Star* as follows: Now that the patent centennial celebration is being held in Washington, and inventors and manufacturers from all parts of the country are manifesting the greatest possible interest in the event, and so much is being said and written about the centennial, the history of the patent system and the Patent Office, of famous inventors and curious patents, it might be interesting to know that Abraham Lincoln was an inventor and received a patent on May 22, 1849, numbered 6,869, for an improved means of combining adjustable buoyant air chambers with steamboats or other vessels to enable their draught to be readily lessened to permit them to pass over bars or through shallow water without discharging their cargoes.

These adjustable buoyant air chambers were secured to the sides of the vessel (which in this instance was an old-style Ohio steamboat) and were formed with top and bottom partitions composed of a plank or plate of metal of suitable stiffness and with flexible side portions of India rubber or textile material thoroughly water-proofed. These buoyant air chambers were very similar in construction and operation to an accordion or a blacksmith's bellows. The vessel was also supplied with a main shaft or shafts and with sliding spars or shafts, the latter passing down through the buoyant chambers and made fast to their bottoms; also with a series of ropes and pulleys, whereby by turning the main shaft or shafts in one direction the buoyant air chambers would be forced downward into the water and at the same time expanded and filled with air for buoying up the vessel by the displacement of the water; and by turning the shaft or shafts in an opposite direction the chambers would be contracted into a small space and secured against injury.



It is also stated that President Lincoln was the inventor of the very ingenious method of emptying boats of water when they had become so filled that bailing was necessary. He bored a hole in the bottom of the boat and by heading the boat up stream in an opposite direction to that in which the tide was moving a suction was formed which very quickly drew out the water through the opening bored in the bottom of the boat.

MODEL OF LINCOLN'S ONLY PATENT



One of the most valuable of the government's unique collection of patent models, the finest in the world, is No. 6,469, granted May 22, 1849 to Abraham Lincoln for method of lifting vessels over shoals. The device consists of the application to a river steamer, of two or more collapsible floats made like bellows, worked from sides of boat by upright poles. When a vessel so equipped strikes shoal water the bellows are inflated by pressure on the poles, which is supposed to raise the boat clear of the bottom. When the bellows are to be deflated a windlass raises the poles.—N. Y. World.

1907

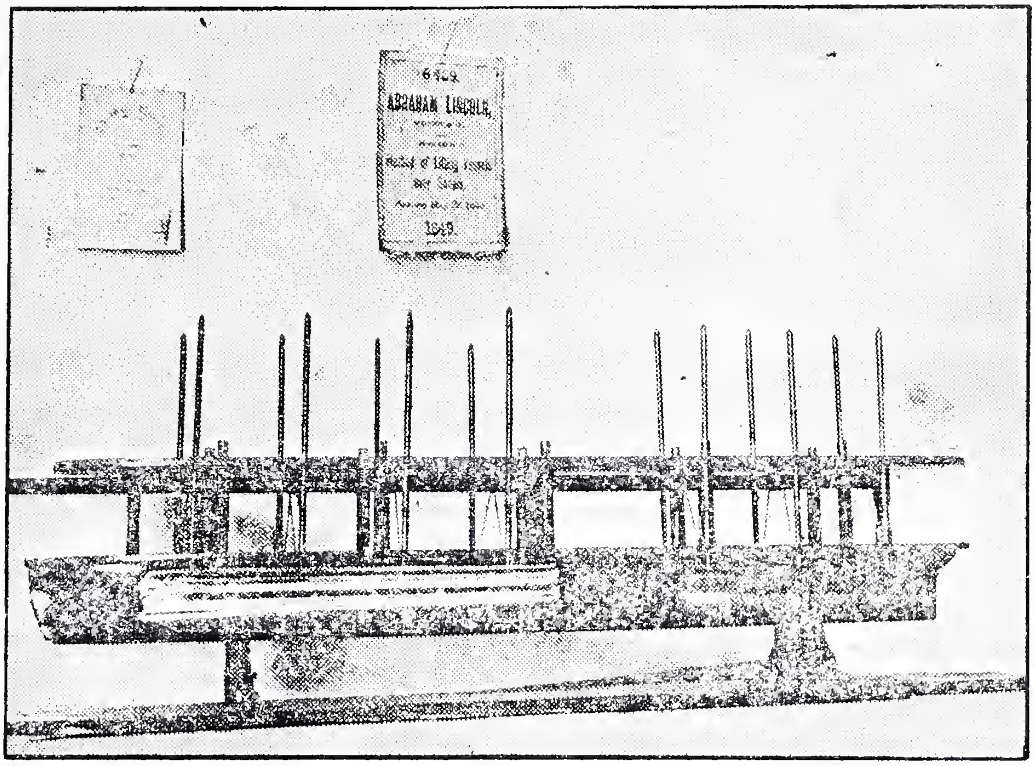
LINCOLN APPLIES FOR A PATENT

That he had enough mechanical genius to make him a good mechanic there is no doubt. With such rude tools as were at his command he had made cabins and flatboats; and after this his mind had become absorbed in public and professional affairs, he often recurred to his mechanical dreams for amusement. One of his dreams took form, and he endeavored to make a practical matter of it. He had had experience in the early navigation of the Western rivers. One of the most serious hindrances to this navigation was low water, and the lodgment of the various craft on the shifting shoals and bars with which these rivers abound. He undertook to contrive an apparatus which, folded to the hull of the boat like a bellows, might be inflated on occasions, and, by its levity, lifted over any obstruction upon which it might rest. On this contrivance, illustrated by a model, whittled out by himself, and now preserved in the Patent Office in Washington, he secured letters patent; but it is certain that the navigation of the Western rivers was not revolutionized by it.

1921

* * * * *

Lincoln, the Inventor



Lincoln's Method of Lifting Vessels Over Shoals

THE most historical model to be found among the hundreds of thousands in the United States Patent Office at Washington is the one that was made by Abraham Lincoln 73 years ago. It is the model of the type of boat that was in general use on the rivers of the country back in the thirties and forties of the past century. 1522

It is claimed this model was produced by Lincoln with the aid of a jack knife, a few old cigar boxes and a shingle or two. The inscription above the model reads: "6469, Abraham Lincoln, Springfield, Illinois. Improvement in lifting vessels over shoals, patented May 22, 1849."

Lincoln had had considerable experience as a boatman and knew of the many vexatious delays caused by boats stranding for days at a time on unseen shoals in the rivers. He conceived the idea of placing a bellows in each side of the hull of the craft, just below the water line, and working them by a system of ropes and pulleys. Whenever the bottom of the boat would come into contact with the bottom of the river, everybody on board would immediately get on the job and pump air into the bellows, thus lifting the boat free of the obstruction and permitting it to float off into deeper water.

This invention of Lincoln's was never developed to any great extent. The advent of canals and railroads, and the deepening of streams through dredging, made devices of such character unnecessary.

This model, however, is proof conclusive that Lincoln was a man of practical ideas as well as being a capable lawyer and great statesman.

In describing Lincoln's visit to his office to procure his patent, Mr. Z. C. Robbins, a prominent attorney of that period, said: "Mr. Lincoln walked into my office one morning with a model of a western steamboat under his arm. After a friendly greeting he placed his model on my office table and proceeded to explain the principle embodied therein that he believed to be his own invention, and which, if new, he desired to secure by letters patent. During my former residence in St. Louis, I had made myself thoroughly familiar with everything appertaining to the construction and equipment of the flat-bottomed steamboats that were adapted to the shallow rivers of our Western and Southern states, and therefore, I was able speedily to come to the conclusion that Mr. Lincoln's proposed improvement of that class of vessels was new and patentable, and I so informed him. Thereupon he instructed me to prepare the necessary drawings and papers and prosecute an application for a patent for his invention at the United States Patent Office. I complied with his instructions and in due course of proceedings procured for him a patent that fully covered all the distinguishing features of his improved steamboat. The identical model that Mr. Lincoln brought to my office can now be seen in the United States Patent Office."

ansas City Star
Feb 11, 1923

LINCOLN AS AN INVENTOR

EARLY TURNED HIS ENERGIES TOWARD MECHANICAL PURSUITS.

Macon Man Has Description of Patent Sought by Emancipator on Device to Navigate Boats With Bellows.

MACON, Mo., Feb. 10.—That Abraham Lincoln once seriously devoted his attention to mechanical invention, and pursued it so far as to obtain a patent, may be news to some who are unaware of the many activities that engrossed the great President's mind.

In the forties and later the matter of navigation was the big problem in the West. Nearly all the settlements of Illinois and Missouri anywhere near a stream were hopeful that in some way those streams could be made navigable for steamboats, and it seems Lincoln shared this hope regarding the Sangamon River.

The information about Lincoln's patent for the raising of sunken steamboats is from some papers in the possession of Maj. S. G. Brock of this city, formerly chief of the bureau of statistics under President Ben Harrison.

HOW PATENT WAS RECORDED.

The Lincoln patent was recorded:

"Model of sinking and raising boats by bellows below. A. Lincoln, May 30, 1849."

It was stated by some of the old inhabitants of the neighborhood that at one time there was a wrecked boat in the Sangamon River, about four miles from Springfield, Ill., as the result of an attempt of Lincoln's to show that the little river was navigable. It was the dream of the pioneer planters that if boats could voyage up the little streams near their holdings they would become wealthy from the proceeds of their crops. They then could get them to the big markets, where big prices were paid, and throughout the states of the Mississippi valley craft of various kinds made many experiments at upstate navigation on small streams.

MANY SHALLOWS IN RIVER.

When he lived in old Salem it is said Lincoln had great faith in the future of the Sangamon River as a material arm of western industry. The big problem as he and others saw it was in getting the boats over the shallow places. The time was far in advance of appropriations for river improvement, and some other means had to be devised for overcoming obstacles to navigation. In the Sangamon River were numerous stretches of comparatively "easy water," for boats, and then would come a lot of sandbars or shallow places.

It was this problem on which Lincoln worked. The model he made may still be in the patent office, or on exhibition somewhere. It would be almost priceless now. It never was demonstrated in actual work, however.

HOW IT "WORKED."

Under the guards of the boat was a "battery" of blacksmith bellows. When the boat reached a place where the bottom would strike the river bed the bellows were supposed to act as "lifters" for the boat, like an air-inflated bladder. It was figured the bellows would raise the boat so its draught would be considerably reduced, and it would slide over the bars like a raft. Once over the shallows the air would be released from the bellows and the boat would procced until it came to the next bad place.

It's a pity no record was ever made of Mark Twain's view of the invention.

But soon after Lincoln obtained his patent his mind was diverted to weightier matters, though he never forgot his "safety first" invention for boats. It is said that soon after his inauguration as President he got one of the patent office officials to look up the model for him.

OTHER CURIOUS INVENTIONS.

Lincoln's invention was no more curious than others patented in the early part of the last century, which showed what was then conceived to be the needs of the people. One man invented an alarm clock which, when it went off, would drop the bed and the sleeper would hit the floor with a bump. The inventor thought there were men who would pay money for a mechanical apparatus that would haul them out of bed.

Another recorded invention was a combination plow and cannon, so if the farmer were attacked by Indians while at work in his field he would be prepared with one load, at least.

1924

LINCOLN INVENTED SAND BAR CRAFT FOR RIVER TRADE

Patent Was Granted for Boat Equipped to Raise Itself From Obstructions.

(Associated Press)

SPRINGFIELD, Ill., July 31.—Seventy-five years after Abraham Lincoln invented a boat to successfully navigate the Sangamon river, land owners along that river propose to accomplish his purpose through another method—that of changing its bed.

On May 22, 1849, a patent was granted at the United States patent office to A. Lincoln, for a craft equipped to raise itself from sandbars and other obstructions found in the Sangamon. The model for this invention, Patent No. 6469, was whittled from cigar boxes.

USED TOY STEAMBOAT

The story goes that the "gang" was gathered in the store of Col. John Williams on the Springfield square discussing the possibilities of navigating the meandering stream. Lincoln was a listener for a while, then he said:

"Gentlemen, I will demonstrate by actual exhibit that it is both possible and practical to navigate the Sangamon. I wil show you a model of a steamboat, in the big water trough at the corner of the square opposite my office, having had experience as a navigator on the Sangamon, Illinois and Missiissippi rivers."

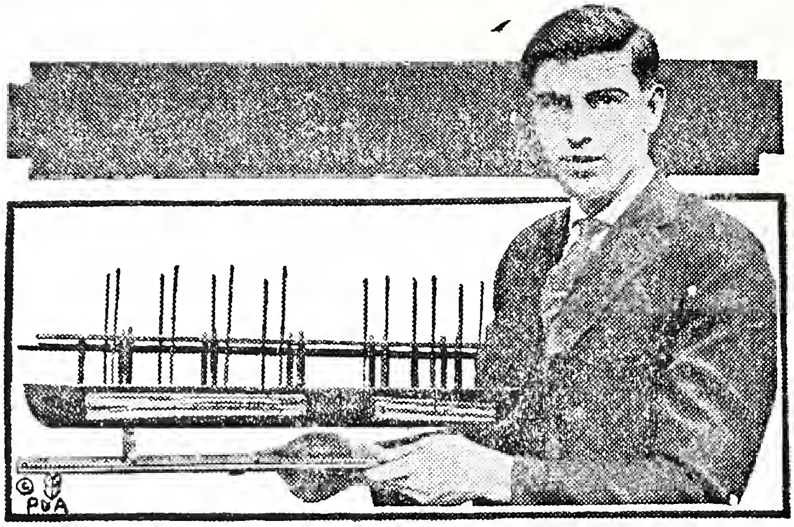
AIR LIFTED DEAD WEIGHT

The day of the test came and Lincoln appeared with his model. Placing it in the trough, a number of bricks were used to weight it down. Then with a small air pump the bellows on each side of the boat were filled and the boat rose about six inches under the load.

"Each inch represents a foot on a full sized steamboat," Lincoln told his audience. Some of the spectators were skeptical, but the model was admitted to the patent office as having "great mechanical value."

On the model, bellows were placed in each side of the hull of the craft, just below the water line. When the craft become grounded, the bellows were to be filled, and the lightness thus obtained was to float the craft again. But the invention was never applied to river craft.

An Invention of Abraham Lincoln!



Not many people, perhaps, are aware that Abraham Lincoln had a mind for mechanics and invention in addition to his many other talents. But records of the United States Patent office prove it. The great president, back in 1849, applied for and secured a patent on a device for lifting vessels over shoals. The young man in the above picture, an attache of the Smithsonian Institute, is shown holding a model of Lincoln's creation.

Kansas

THE HORTON HEADLIGHT-COMMERCIAL

Tuesday, August 3, 1926

BACKGROUND OF EVENTS

Feb 12/29 Wash [illegible] DC

BY PAUL V. COLLINS.

This is the birthday of the only President of the United States who ever got a patent upon an invention—Abraham Lincoln. It is not of public record that any President ever registered a trade mark, but with a pan-American conference to discuss international reciprocity on trade marks, in full session, close to the [illegible]te House, upon the eve of the pr[illegible]on of the former cabinet officia[illegible] ... charge of trade and all interests of commerce, who can deny that it looks like something brewing?

Perhaps Lincoln's invention **was** not originally applicable to the ship of state, and the patent has long ago expired. Trade marks are applicable even on dead patents, if any one is alert to register them and exploit the goods. President-elect Hoover's special attention, therefore, is called to his predecessor's device and his own liberty to use it after March 4, when he finds his ship of state in shallow water. It is of vital interest to the trade mark conference under the circumstances.

This is the legal description of Lincoln's invention:

Patent No. 6,469, March 10, 1849.

"To whom it may concern:

"Be it known that I, Abraham Lincoln of Springfield, in the County of Sangamon, in the State of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessel for the purpose of enabling their draft of water to be readily lessened, to enable them to pass over bars (prior to the eighteenth amendment and Volstead law) or through shallow water, without discharging their cargoes. * * *

"The buoyant chambers, 'A. A.,' which I employ, are constructed in such a manner that they can be expanded so as to hold a large volume of air when required for use, and can be contracted into very small space and safely secured as soon as their services can be dispensed with."

* * * *

While the Lincoln patent ran for only 14 years, expiring in 1863, without renewal, the manufacturer of such buoyant air chambers may still be protected against unfair competition under various trade names—such as "Applesauce" or "Bolona" and a modern improvement—possibly subject to a new patent, would be the use only of "hot air." This is called to the attention of President-elect Hoover, who well knows, from his cabinet experience, how useful is buoyant "hot air" in political shoals.

True, the latest Einstein announcement told us that by the use of magnetism the pull of gravity may be neutralized, and at once a learned college professor has jumped to the conclusion that Jack's seven-league boots had become a fact in place of fiction. Still, while savants are working out the Einstein theory, President-elect Hoover might attach a Lincoln air chamber to the ship of state and the Mayflower, if he register his trade mark.

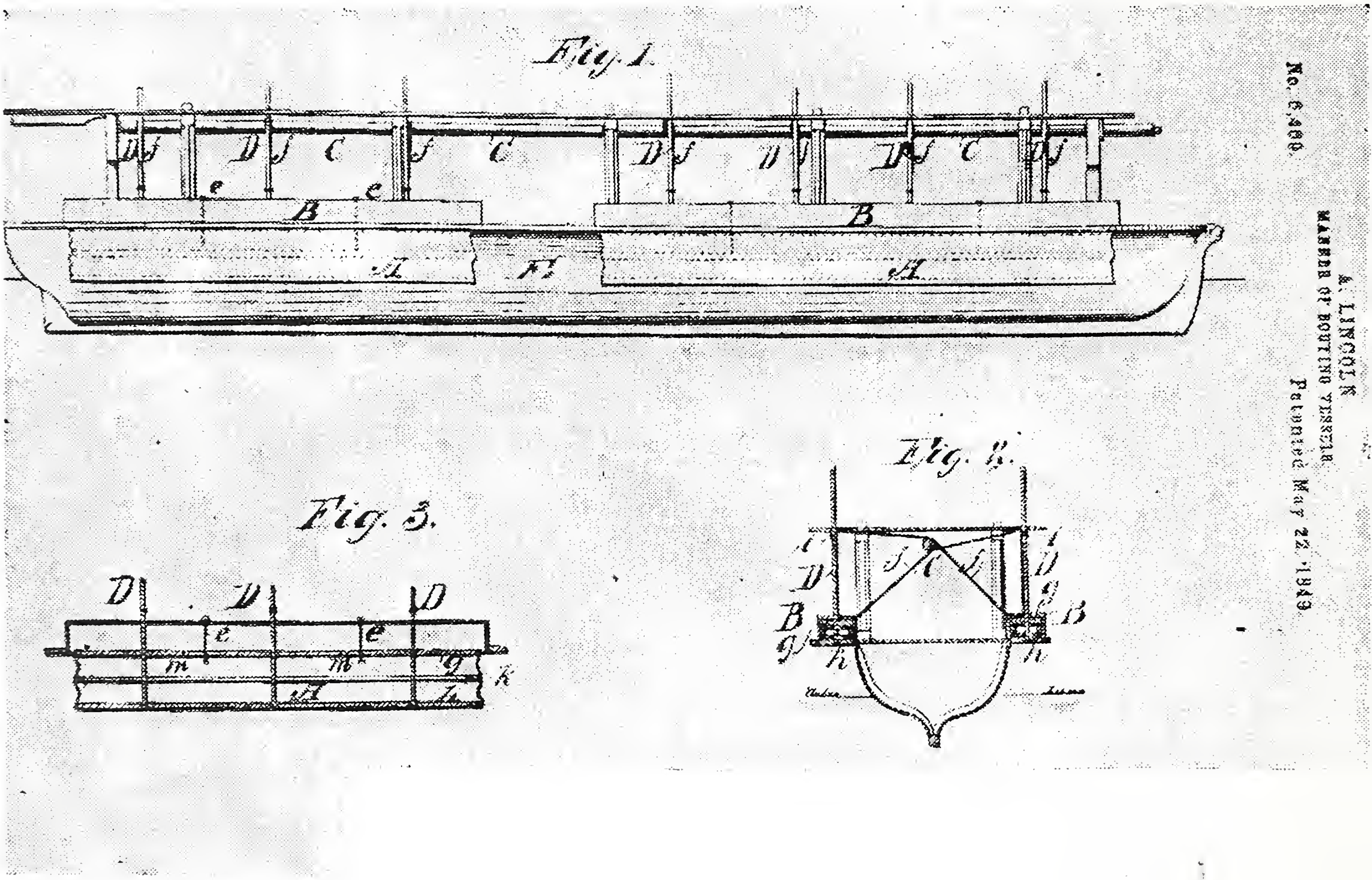
* * * *

It is noteworthy to find that in 1849, after the patent laws had been operating for 56 years (since 1793), there had been only 6,468 patents preceding Lincoln's. Today there are about 85,000 applications annually. The total patents issued in this country up to 1871 was 120,573 and since 1871 up to 1927 the total was 1,664,477. The population of the United States, by the census of 1860, was 31,443,321. In 1920 the population was shown to be 105,710,620—an increase, roughly taken, about three times in population.

The total number of patents in that first 70 years was about 6,500 and in the succeeding 65 years the total number reached 1,664,477—250 times as many as in the first period of approximately the same length. Is it any wonder that modern "American ingenuity and inventiveness" are traditional the world over?

PHILADELPHIA RECORD, WEDNESDAY,

LINCOLN REVEALED AS AN INVENTOR, TOO



The diagram drawing of Abraham Lincoln's newly discovered invention for buoying up vessels over shoals or in shallow water.

AUGUST 10, 1938

Established 1847

The Evening Bulletin

WILLIAM L. McLEAN
President and Publisher 1895-1931

Published Daily Except Sunday by the
BULLETIN COMPANY
Robert McLean, President
Wm. L. McLean, Jr., Vice President and Treasurer
R. L. McLean, Secretary

All communications should be addressed to THE EVENING BULLETIN, Bulletin Building, City Hall Square, Philadelphia, Pa.

Bell, LOCust 4400 Keystone, RACE 5701

SUBSCRIPTION RATES:
In Philadelphia and surrounding towns; 18c a week (payable to carrier).
Outside of Philadelphia, by mail, in United States, Canada, U. S. Possessions, South America, Newfoundland, Spain; 75c a month, $9.00 a year.
Foreign countries: $1.75 a month.
Mail subscriptions accepted only when prepaid. Remit by P. O. Order Express Money Order, Draft or Registered Letter.

JULY CIRCULATION
Net Paid Daily Average 424,966 Copies
The Bulletin circulation figures are net. All damaged and unsold copies have been omitted.
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MONDAY, AUGUST 8, 1938

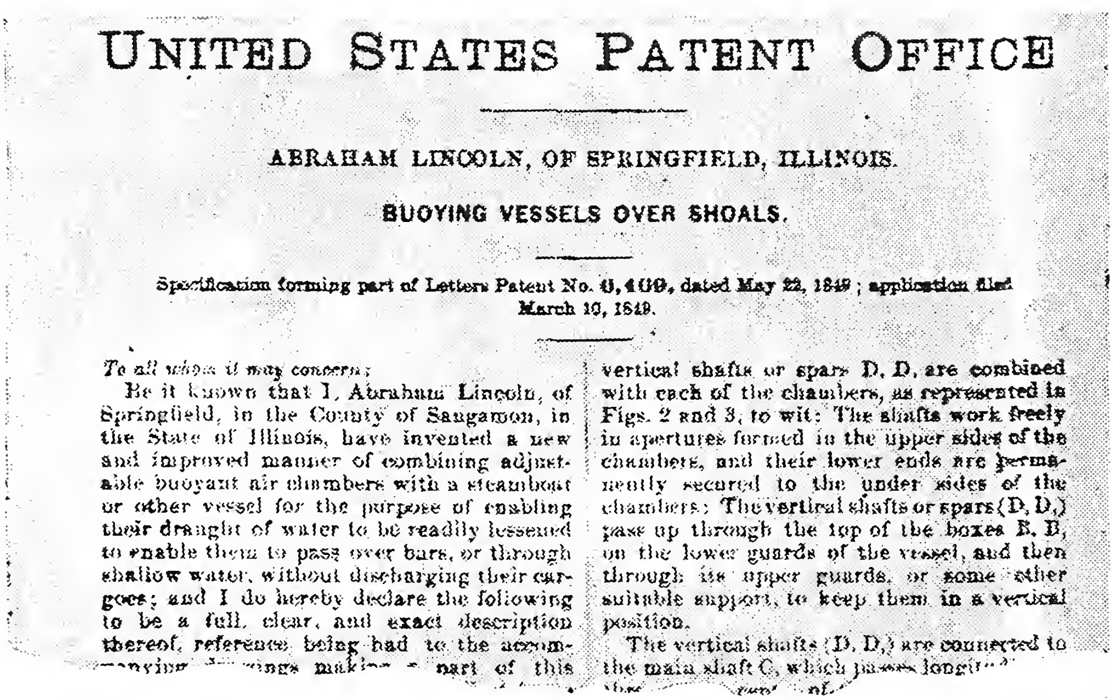
A. LINCOLN ASKED PATENT

New York, Aug. 8—(AP)—From a long-unopened safe, investigators today removed evidence that Abraham Lincoln tried, 89 years ago, to patent an invention for assisting steamboats through shallow river waters.

The safe, once the property of the United States Patent Office, but now owned by Crosby Gaige and Douglas C. Hertz, was opened by locksmith Charles Courtney.

Inside, in addition to several models of inventions by others, was a printed application for a patent, filed March 10, 1849, and signed A. Lincoln, Springfield, Ill.

Lincoln's idea was that river boats should be fitted with pontoons which, filled with compressed air, would lift the vessels "over bars or through shallow water without discharging their cargo."



UNITED STATES PATENT OFFICE

ABRAHAM LINCOLN, OF SPRINGFIELD, ILLINOIS.

BUOYING VESSELS OVER SHOALS.

Specification forming part of Letters Patent No. 6,469, dated May 22, 1849; application filed March 10, 1849.

To all whom it may concern:

Be it known that I, Abraham Lincoln, of Springfield, in the County of Sangamon, in the State of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessel for the purpose of enabling their draught of water to be readily lessened to enable them to pass over bars, or through shallow water, without discharging their cargoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this

vertical shafts or spars D, D, are combined with each of the chambers, as represented in Figs. 2 and 3, to wit: The shafts work freely in apertures formed in the upper sides of the chambers, and their lower ends are permanently secured to the under sides of the chambers: The vertical shafts or spars (D, D,) pass up through the top of the boxes B, B, on the lower guards of the vessel, and then through its upper guards, or some other suitable support, to keep them in a vertical position.

The vertical shafts (D, D,) are connected to the main shaft C, which passes longit

When an old safe was opened at Rockefeller Center, a patent granted to Lincoln, together with a diagram of his invention, was revealed. Here is shown a copy of the patent rights given the Civil War President.

OLD SAFE YIELDS A LINCOLN RELIC

Contains Application by Him to Patent Air Chambers to Buoy Ship in Shallows

A safe built of crystallized iron in 1860 that once belonged to the United States Government and had not been opened in years revealed among its secrets when it was opened yesterday by an expert locksmith an application for a patent for buoying up vessels over shoals or in shallow waters, filed on March 10, 1849, by "A Lincoln, Springfield, Ill."

The opening of the safe was the most dramatic incident so far in the unpacking of thousands of patent models submitted to the United States Patent Office in Washington from 1820 to 1890, recently bought by Crosby Gaige, theatrical producer, and Douglas C. Hertz, for exhibition purposes.

It was staged with an element of mystery on the thirty-fourth floor of the International Building, Rockefeller Center, 630 Fifth Avenue, while the workmen paused in their task of exposing the achievements and failures of the thousands of inventors who had contributed their brain toys to the patent office in Washington, until the patent law was changed to require blue prints from inventors instead of models.

Many Had Tried to Open Safe

Apparently a lot of persons had tried in vain to open the safe in past decades, judging from the marks of a jimmy and a hole bored through, as though somebody had attempted to blow it up. But only eight minutes elapsed after the nimble fingers of Charles Courtney, the locksmith, began to trip the tumblers, when the safe doors swung open.

Crowding around to see what was in it, Mr. Gaige's aides found three patented articles of a remote date, and Abraham Lincoln's printed application, in pamphlet form, witnessed and signed, along with the former President's signature, by T. V. Robbins and A. H. Sylvester.

The existence of this patent application was known, as early in June it was listed in the collection removed from twelve crates, along with a miniature pretzel-bending machine, original egg-beater and corpse preserves. Here it was, though, in black and white, Patent No. 6,469, and dated May 22, 1849, with a drawing of the device for decreasing the draught of vessels in shallow waters. The opening paragraph follows:

"To whom it may concern: Be it be known that I, A. Lincoln of Springfield, in the County of Sangamon, in the State of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat, or other vessel, for the purpose of enabling their draught of water to be readily lessened to enable them to pass over bars, or through shallow waters, without discharging their cargoes."

Its Fate Not Established

Research for the time being failed to establish what had happened to Lincoln's dream child. As a boy of 19 he worked on a flatboat that went down the Ohio and Mississippi Rivers to New Orleans and later, when his family moved from Indiana to Illinois, he made a second trip by boat to New Orleans. Apparently his patent was inspired after seeing steamboats and flatboats with cargoes aground on the shoals or bars in the Mississippi.

The safe also yielded a vertical telegraph instrument model, submitted to the Patent Office on Sept. 10, 1872, by A. B. Sheaver; a metal torpedo-boat model, patented on June 5, 1883, by B. N. Hotchkiss, and a hydrocarbon vapor lamp, patented on Feb. 9, 1858, by R. R. Crosby.

RE ED

FIND LINCOLN'S APPLICATION TO PATENT A BOAT

New York, Aug. 8.—(AP)—From a long unopened safe investigators today removed evidence that Abraham Lincoln, tried, 89 years ago, to patent an invention for assisting steamboats through shallow river waters.

The safe, once the property of the United States patent office but now owned by Crosby Gaige and Douglas C. Hertz, was opened by Locksmith Charles Courtney. Inside was a printed application for a patent, filed March 10, 1849, and signed A. Lincoln, Springfield, Ill. Lincoln's idea was to fit river boats with pontoons which would lift the vessels over bars or through shallow water without discharging their cargo.

Lincoln's Invention Found When Old Safe Is Opened

Illinois Boy Had Device for Decreasing Draught of Vessels in Shallow Waters

Charles Courtney, premier locksmith, who detests the title of "modern Jimmy Valentine," and yet can open safes in an almost fictional manner, today opened one and exposed a dream of a former Illinois boy—A. Lincoln.

Mr. Courtney was called to show his art on a crowded floor of the International Building, Rockfeller Center, 630 Fifth Ave., where Crosby Gaige, theatrical producer and cooking expert, has elected to open the packing cases containing thousands of U. S. Patent Office models which he and Douglas C. Hertz have bought.

There are more than 200,00 reglicas, each an inventor's dream child, to be unpacked by the thirty-five workmen—articles representing millions of dollars in patent and experimental costs.

When Mr. Courtney arrived scores of wooden tables were crowded with everything from metal Christmas trees to be illuminated by gas, to glass heeled shoes and the first electric storage battery.

He was told that the safe, which once belonged to the government, had not been opened for years and no one knew what was in it. Through the decades people had tried to jimmy it ajar, had bored through it as though to set a charge and blow it up, but none had ever found its secrets.

There was such an element of mystery contained in the repository that Mr. Gaige's aids fairly oozed suspense. During the eight minutes that it took Mr. Courtney's practiced fingers to trip the tumblers and swing the doors wide they told how Messrs. Gaige and Hertz plan a public exhibition of the patent models soon, and what has been uncovered already.

Among the things they mentioned, and showed, was the "first" machine gun, submitted by E. G. Parkhurst in 1880, an all-aluminum weapon about a foot and a half high and seven inches long. It contained twelve bullets, manipulated by a piston arrangement.

There was, too, the piano invented by C. F. T. Steinway and the baseball bat produced by George W. Hill, grandfather of the American Tobacco Co.'s G. W. Hill, in 1866.

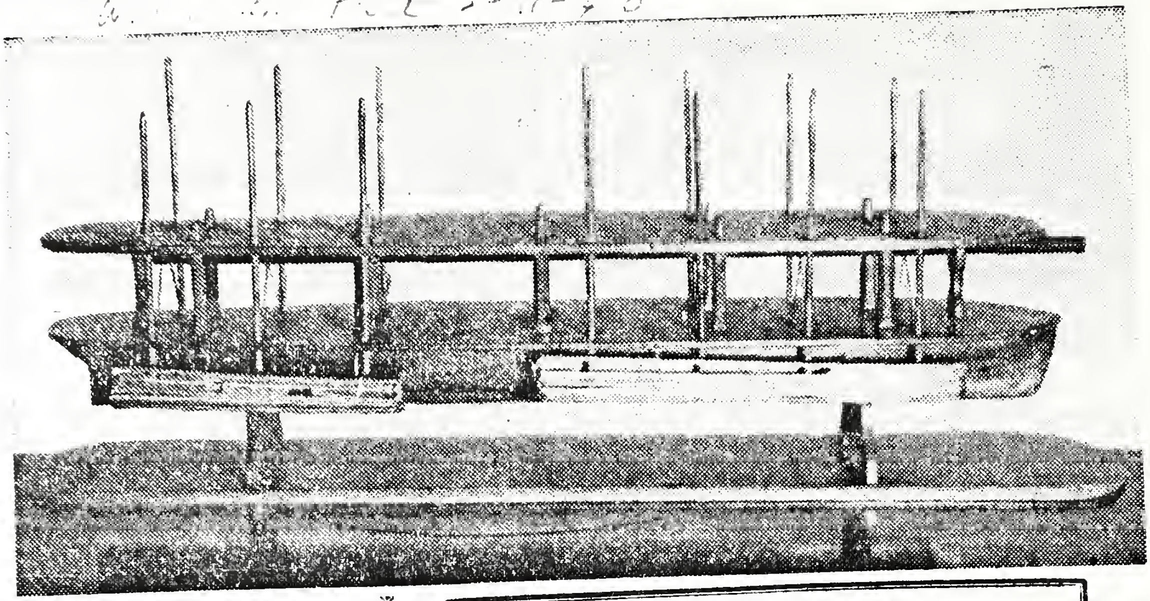
First to be taken out was an ancient telegraph machine model, the work of A. B. Sheaver, submitted in 1872. Then came a brown cardboard box with a hydrocarbon vapor bulb, patented in 1858 by R. R. Crosby. No one knew whether it was an electrical bulb or not.

Then came the printed application, pamphlet form, of "A. Lincoln, Springfield, Ill." It was for "a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessels for the purpose of enabling a draught of water to be readily lessened to enable them to pass over bars or through shallow water without discharging their cargo."

The application for the patent was filed March 10, 1849. It was witnessed and signed, along with Lincoln's signature, by T. V. Robbins and A. H. Sylvester. The accompanying data explained that Lincoln's plan had been to provide pontoons pierced by sliding spars and shafts in such a manner that they could be filled with air and forced into the water," buoying up any vessel by displacement of water."

No one present seemed to know what had happened to A. Lincoln's dream, but a lively press agent suggested that perhaps it was right after he had the patent idea that the gangling Illinois boy had really turned to politics.

Patent Number 6,469, Shows Lincoln a Thwarted Inventor



Device Meant To Lift Boats Over Sandbar

Principle Similar To Raising Oneself By Own Bootstraps

Abraham Lincoln, whose birthday the Nation celebrates tomorrow, took time off from his duties as a Congressman to invent and patent a device for lifting river steamboats over sand bars, records of the Patent Office reveal.

Lincoln's application for the patent, with six pages of specifications in his own handwriting, was submitted on March 10, 1849, and is still in the files.

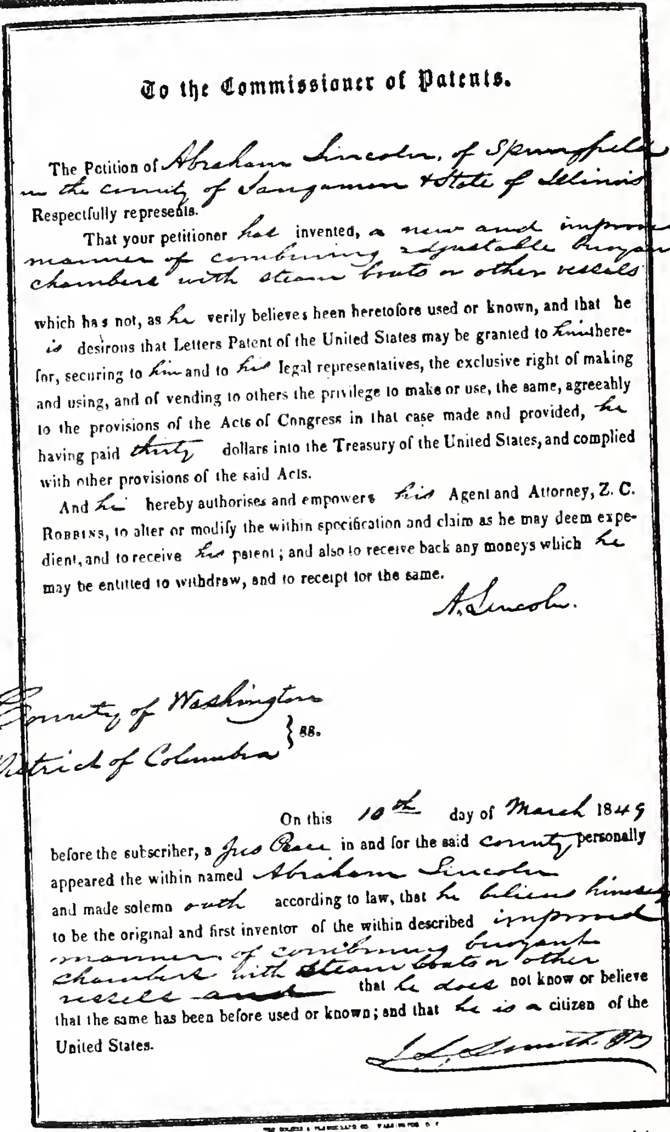
The accompanying model of the invention is now on display at the Smithsonian Institution.

The patent, No. 6,469, was granted May 22, 1849. At that time Lincoln was 40, in Washington as a Representative from Illinois.

The mechanism Lincoln believed would lighten the draft of a vessel consisted of bellows-like arrangements on both sides of the boat's keel. These were normally to be kept contracted. When occasion demanded that the ship float higher in water, the bottom plate of the bellows was to be shoved down by a series of vertical poles connected with it and rising through the decks. The job was to be done by turning a horizontal shaft below the top deck, connected to the poles by ropes and pulleys.

The principle of the arrangement was that a man—or boat—could hoist himself by his own bootstraps. Needless to say, it didn't work.

There is no record to show that Lincoln attempted to convert his patent to use. Patent Office examiners believe that Lincoln's decision to foresake inventing for statesmanship was probably a good idea—for Lincoln and for the country.



To the Commissioner of Patents.

The Petition of Abraham Lincoln, of Springfield in the county of Sangamon & State of Illinois

Respectfully represents.

That your petitioner has invented, a new and improved manner of combining adjustable buoyant chambers with steam boats or other vessels

which has not, as he verily believes been heretofore used or known, and that he is desirous that Letters Patent of the United States may be granted to him therefor, securing to him and to his legal representatives, the exclusive right of making and using, and of vending to others the privilege to make or use, the same, agreeably to the provisions of the Acts of Congress in that case made and provided, he having paid thirty dollars into the Treasury of the United States, and complied with other provisions of the said Acts.

And he hereby authorises and empowers his Agent and Attorney, Z. C. Robbins, to alter or modify the within specification and claim as he may deem expedient, and to receive his patent; and also to receive back any moneys which he may be entitled to withdraw, and to receipt for the same.

A. Lincoln.

County of Washington }
District of Columbia } ss.

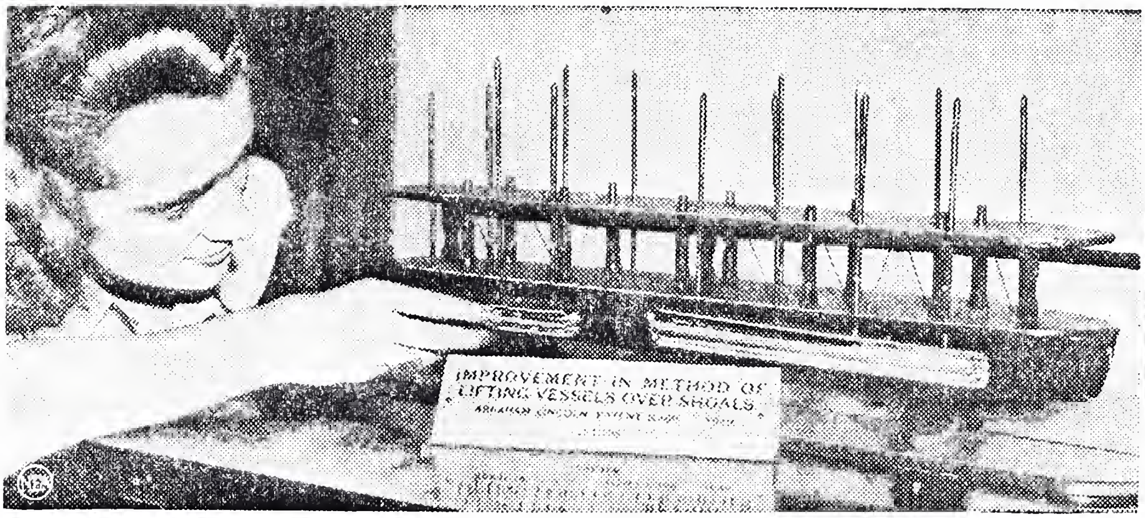
On this 10th day of March 1849 before the subscriber, a Jus Peace in and for the said county personally appeared the within named Abraham Lincoln and made solemn oath according to law, that he believes himself to be the original and first inventor of the within described improved manner of combining buoyant chambers with steam boats or other vessels ~~and~~ that he does not know or believe that the same has been before used or known; and that he is a citizen of the United States.

J. L. Smith J.P.

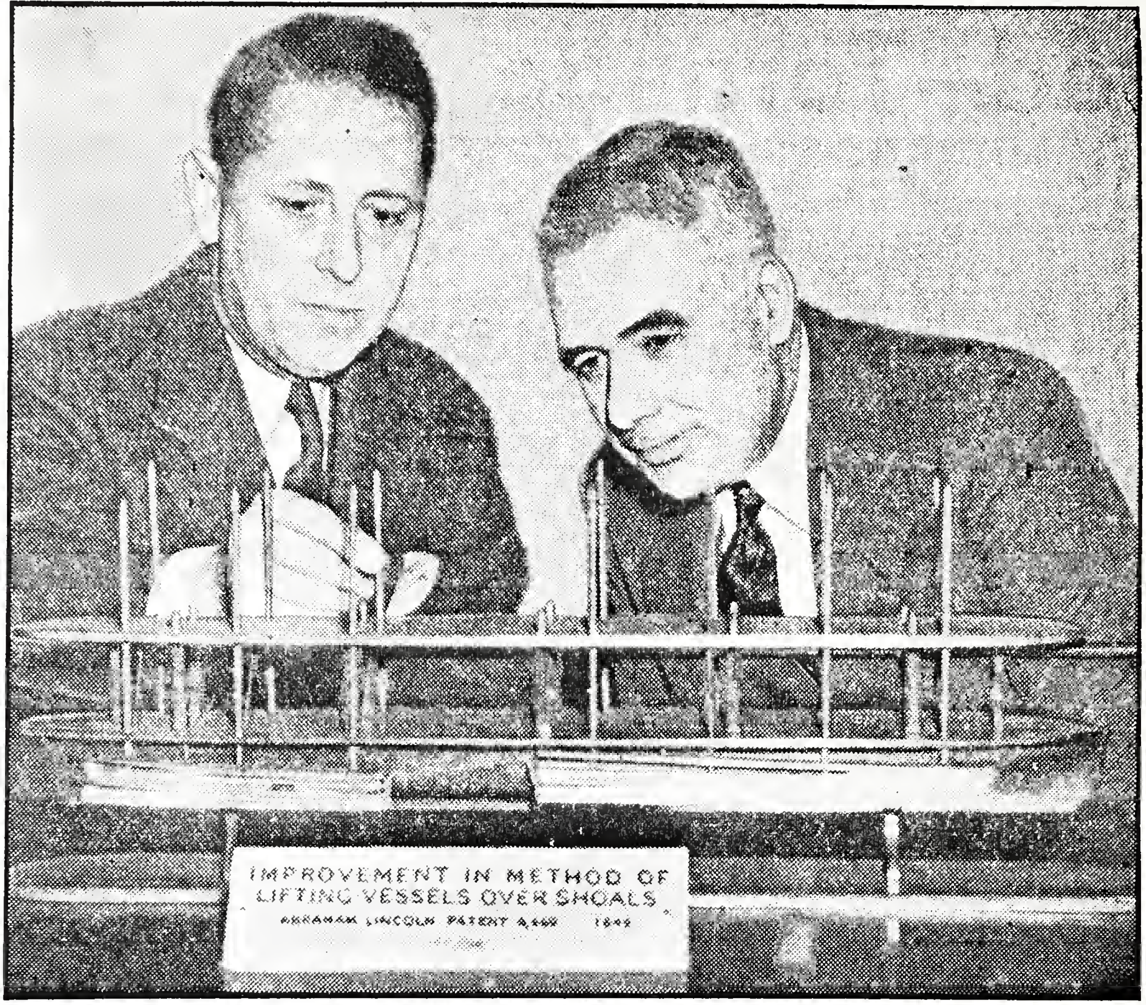
At top is a model of Abraham Lincoln's invention "to combine adjustable buoyant chambers with steam boats or other vessels." The patent (above), which was granted, never was further developed. Lincoln submitted his patent idea while he was serving his term as Congressman from Illinois. Fortunately, for himself, and the country, he decided to give up inventions for statesmanship

Elgin

N DAILY COURIER-NEWS, WEDNESDAY, FEBRUARY 12, 1941



LINCOLN INVENTION—The young woman is looking over Abe Lincoln's model for his invention to lift ships over shoals. He obtained a patent on the device on May 22, 1849.


IMPROVEMENT IN METHOD OF
LIFTING VESSELS OVER SHOALS
ABRAHAM LINCOLN PATENT [illegible] 1849

LINCOLN'S INVENTION—United States Commissioner of Patents Conway P. Coe (left) is shown yesterday explaining the operation of a model of a device patented by Abraham Lincoln, to M. L. Wilson, director of the Extension Service, Department of Agriculture, who is president of the Lincoln Group here. —Star Staff Photo.

Lincoln's 'Boat-Lifting' Device Is Shown at Patent Office

Expansible Air Chambers Were Supposed To Help Craft Over Shoals

Patent No. 6489 is just another device registered by the United States Patent Office. Like thousands of others, the contraption never amounted to anything. The inventor sought to lift, so to speak, a boat by its own bootstraps.

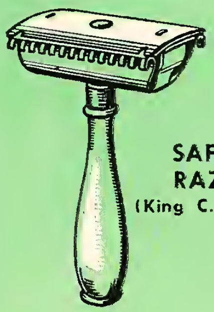
Probably the only earthly good the invention has served is to illustrate another little known but warmly human side of Abraham Lincoln, who, like millions of others, dreamed futilely of making a fortune on a patent.

The model that the then Representative from Illinois filed with the Patent Office in 1849 was taken from its glass showcase yesterday while United States Patent Commissioner Conway P. Coe explained its operation to M. L. Wilson, president of the Lincoln group here.

No More

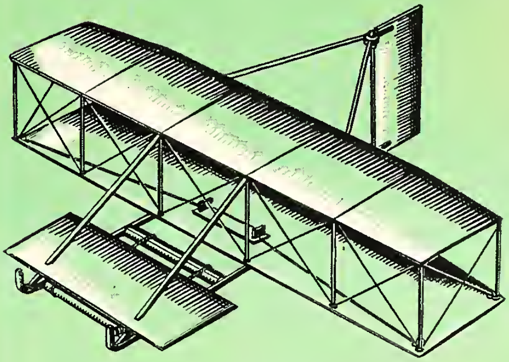
Proposed legislation for "compulsory licensing" of patents would remove the incentive that has made Yankee ingenuity famous around the world.

THESE BIG MONEY-MAKERS



SAFETY RAZOR
(King C. Gillette

BOTTLE CAP
(Charles A. Warfield)



AIRPLANE
(The Wright brothers)

It was the prospect of financial gain that inspired the great inventions which have contributed so much to the ease and

ABRAHAM LINCOLN, the only President of the United States to whom a patent ever has been granted, once said that our patent system "adds the fuel of interest to the fire of genius."

When he made that remark, Honest Abe wasn't thinking about his own invention, which never earned a cent for him. (It was a bellows device he proposed to attach to the hull of a boat just below the water line for floating the craft over shallow places.) What he meant was that our patent system holds out to an inventor a dollars-and-cents incentive sufficient to make it worth his while to go short on sleep, miss meals, and put up with the embarrassment of having his neighbors think him screwy while he sweats through the painful process of developing a bright idea into a patentable invention.

Legislation which has been proposed to Congress would remove much of that monetary spur to inventive enterprise. It would weaken and probably wreck the 153-year-old patent system that has played so vital a part in making the United States the world's leading industrial nation.

Contrary to general belief, the Constitution does not give inventors the exclusive right to benefit from their inventions for a term of years. It merely gives Congress the power to give inventors that exclusive right. That is a very different thing. What Congress can give, Congress can take away!

During the 17 years of his patent's life, an inventor now can do exactly as he pleases with his invention. He can put it into manufacture and sell it himself. He can make a royalty deal giving someone else the right to manufacture and sell it. He can make and market it himself in one territory, and lease to others the right to make and market it in other territories. He can sell his patent outright, and—if he gets enough for it—go fishing for the rest of his life.

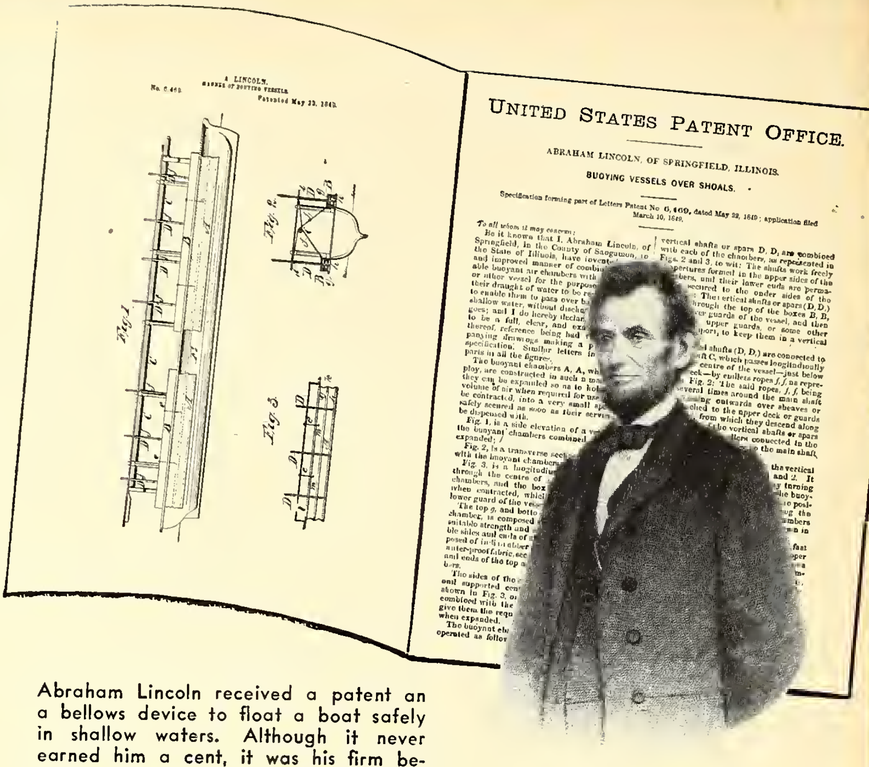
The strongest argument for continuing our American patent system without radical change is that it has worked better than any other patent system except those which have been modeled after it It has stimulated invention until an application for a patent is filed every 8½ minutes around the clock, and a patent is granted every 11 minutes.

Among the 2,250,000 patents that have been issued to American inventors are those which form the foundation of our industrial might and make possible the American way of life. Most of these world-changing inventions have earned fortunes. So have the simpler inventions, which merely contributed to the convenience and pleasure of life. One of the big money-makers was the first im-

Commissioner of Patents, with both of the interested parties having the right of appeal to the courts.

Our patent system isn't perfect, but it has done a good job all through the 153 years of its existence. The change recommended by the Patent Planning Commission is intended to strengthen it; and not, as a judge recently remarked, to "throw out the baby with the bath water"—which is what the enactment of the proposed compulsory-license-system law would do.

Over 300 years ago, the first American patent, for a new way of making salt, was issued to Samuel Adams by the Colony of Massachusetts. Later, when the 13 colonies were welded into a nation, the inventor's rights were not forgotten. In 1787, when the Constitution was framed at Philadelphia, the following article was included: "The Congress shall have power . . . to promote the progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive right to their Writings and Discoveries." Since that time, there have been several changes in the patent laws, but they have remained the same in principle. Their success in fostering invention should make us hesitate before changing them.—ARTHUR GRAHAME.


A. LINCOLN.
MANNER OF BUOYING VESSELS.
No. 6,469. Patented May 22, 1849.

UNITED STATES PATENT OFFICE.

ABRAHAM LINCOLN, OF SPRINGFIELD, ILLINOIS.

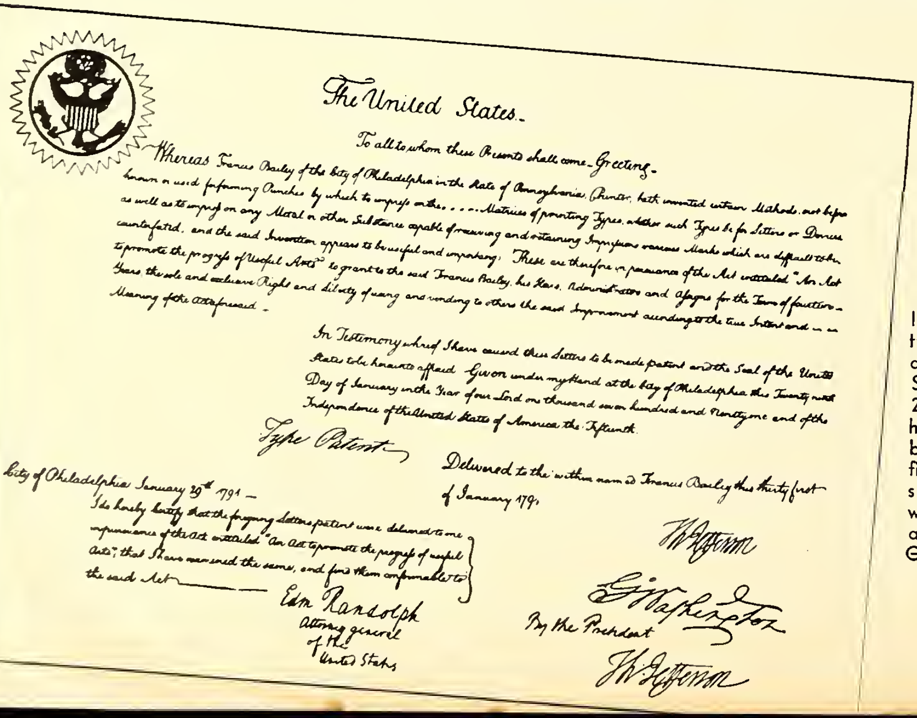
BUOYING VESSELS OVER SHOALS.

Specification forming part of Letters Patent No. 6,469, dated May 22, 1849; application filed March 10, 1849.

To all whom it may concern:

Fig. 1
Fig. 2
Fig. 3

Abraham Lincoln received a patent an a bellows device to float a boat safely in shallow waters. Although it never earned him a cent, it was his firm belief thot, under our potent system, the hope of realizing o fortune odded "the fuel of interest to the fire of genius"


The United States.

To all to whom these Presents shall come—Greeting.

Whereas Francis Bailey of the City of Philadelphia in the State of Pennsylvania, Printer, hath invented certain Methods not before known or used for forming Punches by which to impress on the . . . . Matrices of printing Types, whether such Types be for Letters or Devices as well as to impress on any Metal or other Substance capable of receiving and retaining Impressions various Marks which are difficult to be counterfeited, and the said Invention appears to be useful and important; These are therefore in pursuance of the Act intitled "An Act to promote the progress of Useful Arts" to grant to the said Francis Bailey, his Heirs, Administrators and Assigns for the Term of fourteen Years, the sole and exclusive Right and Liberty of using and vending to others the said Improvement according to the true Intent and meaning of the Act aforesaid.

In Testimony whereof I have caused these Letters to be made patent and the Seal of the United States to be hereunto affixed. Given under my Hand at the City of Philadelphia this Twenty ninth Day of January in the Year of our Lord one thousand seven hundred and Ninety one and of the Independence of the United States of America the Fifteenth.

Type Patent

Delivered to the within named Francis Bailey this thirty first of January 1791

Th: Jefferson

City of Philadelphia January 29th 1791 —
I do hereby certify that the foregoing Letters patent were delivered to me in pursuance of the Act intitled "An Act to promote the progress of useful Arts"; that I have examined the same, and find them conformable to the said Act ——
Edm Randolph
Attorney general
of the
United States

G: Washington

By the President
Th: Jefferson

Inventiveness is as typically Americon as corn on the cob. Since 1790, over 2,250,000 patents have been granted by the Potent Office. The potent shawn ot the left was issued in 1791 and signed by GeorgeWoshington

LINCOLN LORE

Bulletin of the Lincoln National Life Foundation - - - - - Dr. Louis A. Warren, Editor
Published each week by The Lincoln National Life Insurance Company, Fort Wayne, Indiana

Number 843 FORT WAYNE, INDIANA June 4, 1945

CONGRESSMAN LINCOLN'S PATENT

There is a deplorable lack of information about the activities of Abraham Lincoln while in Washington during the period of his only term in Congress. Of course there are available the proceedings of the House of Representatives in which he participated, but the accounts of his social activities and casual interests are few indeed.

There is one incident worth recording which, as far as we know, was his last business transaction before leaving Washington for home, and his return to private life. On March 10, 1849, he applied for a patent on, "a device for lifting boats over sand bars," thus the role of Congressman Lincoln as an inventor should be considered as one of the by-products of his congressional term.

While it is difficult to arrive at any definite conclusion as to just how early Lincoln started to work on his invention there seems to be fairly good evidence that some of the details for the boat lifting contraption were furnished the previous year when he was on his way home after the adjournment of Congress. He is known to have left Buffalo on September 24th by boat for Detroit.

There is a tradition that on this occasion when Lincoln was proceeding over Lake Erie, the steamer was grounded on a sand bar, accordingly "the captain of the vessel had all hands force barrels under the side of the ship below the water line." The informant recalling the incident stated that "slowly but surely the boat began to rise. Lincoln stood by at the rail watching intently. Taking a piece of paper from his jacket, he sat down, placed it on top of his high hat and began to make some sketches."

Possibly a story told by Gains Paddock, an old resident of Springfield, is the sequel to this Lake Erie episode. Paddock claimed:

"Abraham Lincoln came into John Williams' store on the north side of the square, which was the town's loafing place and where I was clerking during the summer, and stated that he believed he had solved the problem. He declared the Sangamon River was navigable and told us all to come over to the square the next day and he would prove his statement. Promptly at the time he had named, Lincoln walked into the place where the crowd had assembled, carrying under his arm a small boat model, which he placed in one of the public watering troughs, situated at each corner of the square. Placing bricks in the boat he sank it to the gunwalls and then using bellows blew air into compartments. As a result the boat and its load were lifted several inches higher in the water. He then explained the procedure to the people stating that if a sand bar were encountered all that need be done was to fill the compartments with air. Picking up the boat model he turned and walked away leaving the people arguing on the method of the plan."

When Lincoln left Springfield for Washington again on November 26 it is likely that he carried with him the model for his patent. On this trip he traveled by the river route via St. Louis down the Mississippi and up the Ohio. This trip might have given him further opportunity to observe the practicability of his anticipated invention.

John G. Nicolay recorded that Lincoln whittled the red cedar model which is eighteen inches long with his jack knife. One person who looked over the device remarked, "If this be true, young Lincoln was an admirably skillful whittler, for the model is not only symmetrical in its parts, but it is smooth and carefully finished, as if scraped with glass and rubbed down with emery paper."

How soon after Lincoln reached Washington he proceeded to carry out his plans to get his invention patented, we do not know, but he made the acquaintance of a patent lawyer, Mr. Zenas C. Robbins. Robbins was a former St. Louis man, having lived there for ten years, and had personally observed the difficulties which confronted navigation on the Mississippi. One evening Elihu B. Washburn called on Mr. Robbins and his wife at their home, and brought his friend Lincoln along. A few days after this, according to Robbins, "Mr. Lincoln walked into my office one morning with a model of a western steamboat under his arm. After a friendly greeting he placed his model on my office table and proceeded to explain the principle embodied therein that he believed to be his own invention, and which, if new, he desired to secure by letters patent. During my former residence in St. Louis, I had made myself thoroughly familiar with everything appertaining to the construction and equipment of the flat-bottomed steamboats that were adapted to the shallow rivers of our Western and Southern states, and therefore, I was able speedily to come to the conclusion that Mr. Lincoln's proposed improvement of that class of vessels was new and patentable, and I so informed him. Thereupon he instructed me to prepare the necessary drawings and papers and prosecute an application for a patent for his invention at the United States Patent Office. I complied with his instructions and in due course of proceedings procured for him a patent that fully covered all the distinguishing features of his improved steamboat. The identical model that Mr. Lincoln brought to my office can now be seen in the United States Patent Office. . . .

"Mr. Lincoln's invention provided for placing under the guards of the boat, buoyant chambers, expansible buoyant chambers, made of some waterproof material, with the parts so arranged and connected with the engines that when the boat got aground the whole power of the boilers could be exerted to depress these chambers, and more than double the width of the boat, and of course raise the boat in the water. Then the power could be applied to the wheels and the boat could again go on its way rejoicing."

The following is a copy of the printed form which Robbins asked Lincoln to fill out and which was duly filed on March 10, 1849. The words printed in italics were filled in by Lincoln. The oath required was administered by J. L. Smith, a justice of the peace.

"The Petition of *Abraham Lincoln, of Springfield in the county of Sangamon & State of Illinois* Respectfully represents

"That your petitioner *has* invented, *a new and improved manner of combining adjustable buoyant chambers with steam boats or other vessels* which has not, as *he* verily believes been heretofore used or known, and that he *is* desirous that Letters Patent of the United States may be granted to him therefore, securing to *him* and to *his* legal representatives, the exclusive right of making and using, and of vending to others the privilege to make or use, the same, agreeably to the provisions of the Acts of Congress in that case made and provided, he having paid *thirty* dollars into the Treasury of the United States, and complied with other provisions of the said Acts.

"And *he* hereby authorizes and empowers *his* Agent and Attorney, Z. C. Robbins, to alter or modify the within specification and claim as he may deem expedient, and to receive *his* patent; and also to receive back any moneys which *he* may be entitled to withdraw, and to receipt for the same.

"A. Lincoln."

LINCOLN LORE

Bulletin of the Lincoln National Life Foundation - - - - - Dr. Louis A. Warren, Editor
Published each week by The Lincoln National Life Insurance Company, Fort Wayne, Indiana

Number 889 FORT WAYNE, INDIANA April 22, 1946

LINCOLN AND WEBSTER

According to the statement of Jesse W. Weik when Lincoln began his work on the First Inaugural one of the sources which he sent for was "Webster's Reply to Hayne." There has never been any question but what Daniel Webster as an outstanding American statesman greatly influenced Abraham Lincoln, however, there has always been much speculation about how much interest Webster took in his younger contemporary during the short time they were in Congress together.

Lincoln, recently removed to Springfield, Illinois, and had just been admitted to the bar when Daniel Webster visited the West and made a speech at Madison, Indiana. It is almost certain Lincoln read this speech and it is likely that his famous axiom about the security of America, presented in his 1838 Lyceum speech, found root in this statement of Daniel Webster at Madison: "There is no nation on earth powerful enough to accomplish our overthrow. Our destruction, should it come at all, will be from another quarter. From the inattention of the people to the concerns of their government, from their carelessness and negligence I must confess that I do apprehend some danger."

It was not until Lincoln became a member of Congress in 1847 that he met Webster. One author implies that they became very well acquainted and that Lincoln was invited to some of the famous breakfast chats in Webster's home. Still another tradition holds that Webster made some complimentary remarks about Lincoln's ability, as compared to the other new congressmen who had been received into the 30th session of the House. As far as we know however neither one of these conclusions can be verified.

Daniel Webster was born in 1782 and at forty years of age was elected a representative to Congress, five years later he was elevated to the Senate. It will be observed that he was twenty-seven years older than Lincoln, and the lone Whig from Illinois entered the House of Representatives at the age of thirty-eight. It is not likely that the young congressman from Illinois and the sixty-five year old Senator, although members of the same party, would find very much in common that would encourage any close fellowship. It must be admitted that they saw eye-to-eye on all the major problems brought before Congress, including the Mexican War, slavery and tariff and voted almost unanimously with the Whig members in their respective Houses. Webster must have had his attention called to Lincoln's "Spot Resolutions" with which he must have been in full accord.

Also about this time there seemed to be a general movement throughout the country on the part of the younger men to have a voice in the deliberations of the political parties. Herndon's complaint to Lincoln about the younger men being overlooked is illustrative of it. While from Herndon's viewpoint Lincoln was one of the older men, yet in Washington he belonged to the "young" Indians, a group of young men in the Whig party who were largely responsible of bringing about the nomination of Zachary Taylor.

With the casting off of Clay, Webster had his eye on the Presidency, but the young Whigs wanted a man with whom they could win an election. Webster greatly disapproved of the bringing out of Taylor as he did not favor any soldier for President. Inasmuch as Lincoln was very active in securing Taylor's nomination it is not likely that Webster would appreciate the efforts put forth for a candidate which stood in his way of gaining the nomination.

When Lincoln arrived in Washington early in December for the short term of Congress he brought with him the model for a patent he hoped to secure "for lifting boats over sand bars." He is known to have visited the patent attorney Zenas C. Robbins who drew up the papers for him, and his next step would be the presentation of the application to Commissioner of Patents. It was in the process of securing this patent that Lincoln possibly came in contact with Webster for the last time as he was soon to start for his home in Illinois. This incident brings us to the discovery that has suggested this issue of the bulletin.

Early in March, 1946, the editor of Lincoln Lore had the pleasure of addressing some of the members of the Cleveland Lincoln Group at the Western Reserve Historical Society Museum under the sponsorship of the late curator, Dr. Benton. Preliminary to the engagement some little time was available for looking through the Society's manuscripts and it was here that an unpublished and probably wholly unknown letter was discovered written by Daniel Webster to Abraham Lincoln. Although there is no year named in the date line, yet we are quite sure it should be 1849. This is a copy of the letter in question.

"February 28 (1849)

"Mr. Eubank is yet in South. If the inclosed statement of the claim will satisfy our friends I have reason to think a patent may be obtained.

"Yours truly
"Dan'l Webster

"Mr. Lincoln"

Mr. Thomas Eubank was the distinguished Commissioner of Patents and apparently some communication addressed to him had come to the attention of Mr. Webster. Whether or not Webster was serving in any official capacity which would bring Lincoln's patent before him we are not informed, but we do know he was not a member of the Patent Committee in the Senate. There is another possibility that Lincoln may have asked Webster to interview Eubank about securing the patent and the letter was his word in reply.

The sequel to this friendly letter is discovered in the action of the patent office which ten days later, on March 10, 1849, issued a patent to Mr. Lincoln. Possibly when the Lincoln papers in the Library of Congress are opened next year we will hear more about the Webster and Lincoln contacts and especially the reason why Webster should take an interest in Abraham Lincoln's patent.

LINCOLN HERALD

PUBLISHED BY LINCOLN MEMORIAL UNIVERSITY PRESS

August 8, 1957

Dr. R. Gerald McMurtry, Director
Lincoln National Life Foundation
Fort Wayne, Indiana

Dear Gerald:

The dope you asked for is as follows: Report/of the/ Commissioner of Patents/ For/ The Year 1849/ Part I/ Arts and Manufactures. Washington: Office/Printers to House of Reps., 1850. Lincoln's invention is described on p. 262.

Latest dope department: Bowlings are staying. They shocked everybody by asking Dr. K. for the Taylor apartment with the intention of selling their house. They came by last night to measure rooms, etc.

Also Byno is staying. He was all lined up at Eastern Ky. State, but pressure (last minute argument) prevailed and he will see through the next year.

Nothing else new.

Cordially,

Bill

Editorial and Business Office
HARROGATE, TENN.

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Lincoln Lore

Bulletin of The Lincoln National Life Foundation . . . Dr. R. Gerald McMurtry, Editor
Published each month by The Lincoln National Life Insurance Company, Fort Wayne, Indiana

Number 1439 FORT WAYNE, INDIANA January, 1958

A. LINCOLN
MANNER OF BUOYING VESSELS

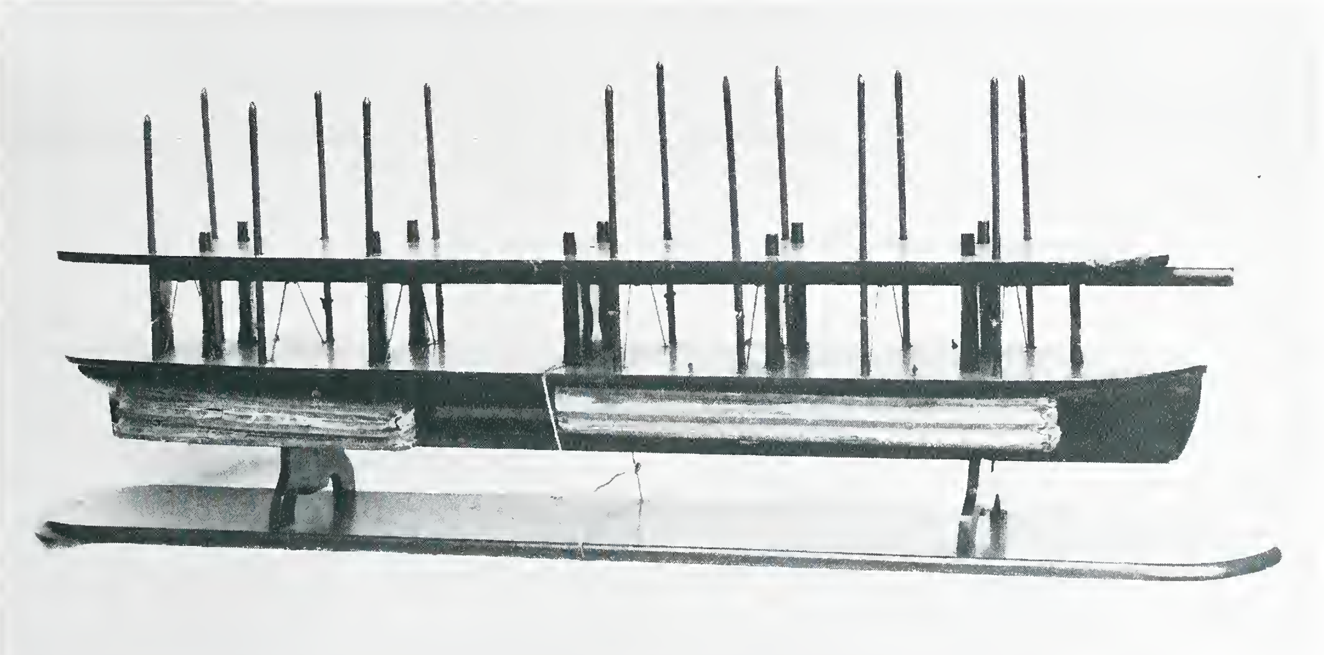
No. 6,469 Patented May 22, 1849

Abraham Lincoln was interested in shallow water navigation. He had considerable experience as a boatman and he knew of the many vexations and delays caused by boats being stranded for days at a time on unseen shoals in the lakes and rivers. Then, too, his six years' (1831-1837) residence at New Salem, Illinois, on the Sangamon River, had convinced him that if that stream was to become an artery of travel the vessels engaged in the river traffic would have to lift themselves over the sand bars, so to speak, by their own bootstraps.

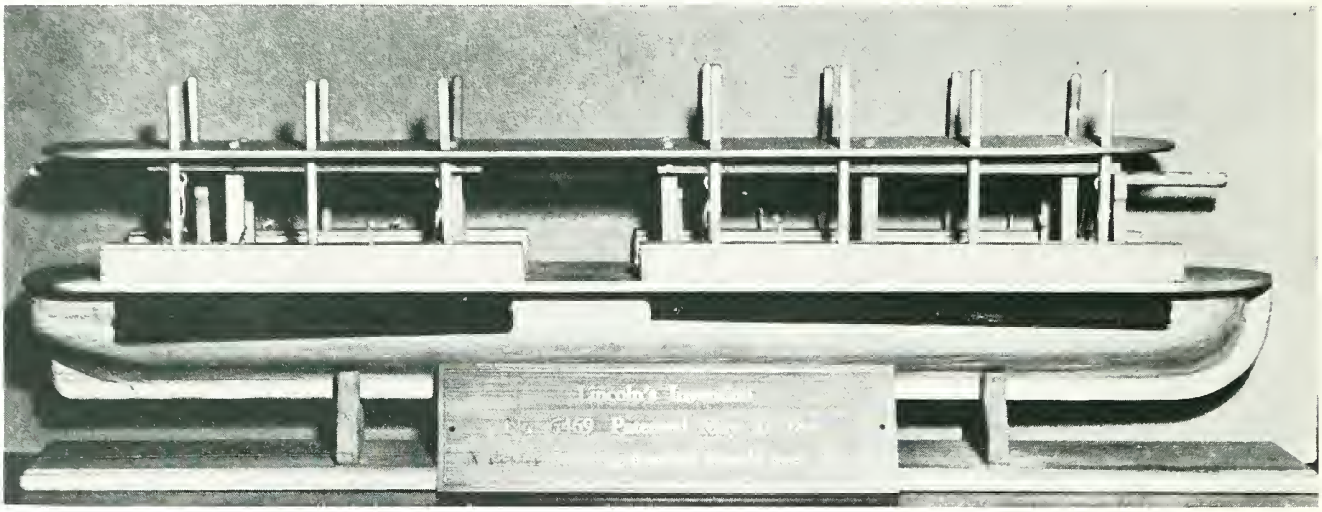
This lesson was further demonstrated in 1848 when Congressman Lincoln traveled by steamer from Buffalo to Detroit. Enroute, the Lake Erie steamer became grounded on a sand bar. The captain, applying a simple law of physics, met the crisis. He ordered all hands to force barrels under the side of the ship below the water line. In recalling the incident it was said that "slowly but surely the boat began to rise." Lincoln watched the entire proceedings intently and the tradition further relates that "taking a piece of paper from his jacket, he sat down, placed it on top of his high hat and began to make some sketches."

Upon reaching home Lincoln determined to incorporate the same principle he had seen the ship captain employ, in an apparatus that would be soundly practicable and readily applicable. He secured the help of Walter Davis, a mechanic who had a wood working shop near the Lincoln-Herndon law office, to help him devise a carefully finished model, that would be symmetrical in its parts. Davis had materials and tools and he assisted Lincoln in his scientific project. The device was ingenius with an odd system of pulleys, bellows, poles and ropes. Apparently Lincoln spent a lot of time on the eighteen inch model, whittling on it, scraping it with glass, rubbing it down with emery paper and all the while trying to visualize how it would revolutionize river and lake navigation. The finished product was a long and graceful river-boat, through whose outer decks, from stem to stern, on both sides, were inserted vertical poles attached at their lower ends to horizontal bellows running beneath the lower guards near the water. Lincoln estimated that one inch of the lifting power of his model's buoyant chambers would represent one foot on a regular size steamboat.

Gaines Paddock of Springfield recalled how "Abraham Lincoln came into John Williams' store on the north side of the square, which was the town's loafing place and where I was clerking during the summer and stated that he believed he had solved the problem. He declared the Sangamon River was navigable and told us all to



Patent Office model made by Abraham Lincoln and Walter Davis illustrating the method of lifting vessels over shoals, patented May 22, 1849, Number 6,469. Now exhibited at the Smithsonian Institution. See Lincoln Lore Number 843, June 4, 1945.



Scale model of Lincoln's invention embodying all of the specifications for construction, except for the application of steam power to shaft C to inflate the air chambers. From the Carl W. Schaefer Collection.

by letter patent. During my former residence in St. Louis, I had made myself thoroughly familiar with everything appertaining to the construction and equipment of the flat-bottomed steamboats that were adapted to the shallow rivers of our Western and Southern states, and therefore, I was able speedily to come to the conclusion that Mr. Lincoln's proposed improvement of that class of vessel was new and patentable, and I so informed him. Thereupon he instructed me to prepare the necessary drawings and paper and prosecute an application for a patent for his invention at the United States Patent Office. I complied with his instructions and in due course of proceedings procured for him a patent that fully covered all the distinguishing features of his improved steamboat. The identical model that Mr. Lincoln brought to my office can be seen in the United States Patent Office. . . .

"Mr. Lincoln's invention provided for placing under the guards of the boat, buoyant chambers, expansible buoyant chambers, made of some waterproof material, with the parts so arranged and connected with the engines that when the boat got aground the whole power of the boilers could be exerted to depress these chambers, and more than double the width of the boat and of course raise the boat in the water. Then the power could be applied to the wheels and the boat could again go on its way rejoicing."

Robbins asked Lincoln to sign a copy of a printed form addressed to the Commissioner of Patents, Edmund Burke, which was filed on March 10, 1849. The words printed in italics were filled in by hand:

"Application for Patent"
on an Improved Method of Lifting Vessels over Shoals
March 10, 1849
To the Commissioner of Patents.

"The Petition of *Abraham Lincoln, of Springfield in the county of Sangamon & State of Illinois* Respectfully represents.

"That your petitioner has invented, a *new and improved manner of combining adjustable buoyant chambers with steam boats or other vessels* which has not, as *he* verily believes been heretofore used or known, and that he *is* desirous that Letters Patent of the United States may be granted to *him* therefor, securing to *him* and to *his* legal representatives, the exclusive right of making and using, and of vending to others the privilege to make or use, the same, agreeably to the provisions of the Acts of Congress in that case made and provided, *he* having paid *thirty* dollars (Robbins later recalled that Lincoln paid $50, of which $20 may have been the patent attorney's fee) into the Treasury of the United States, and complied with other provisions of the said Acts.

"And *he* hereby authorises and empowers *his* Agent and Attorney, Z. C. Robbins, to alter or modify the within specification and claim as he may deem expedient, and to receive *his* patent; and also to receive back any moneys which he may be entitled to withdraw, and to receipt for the same.

A. Lincoln."

The required oath was administered by I. L. Smith, a justice of the peace: "On this *10th*, day of *March 1849* before the subscriber, a *Jus Peace* in and for the said *county* personally appeared the within named *Abraham Lincoln* and made solemn *oath* according to law, that *he believes himself* to be the original and first inventor of the within described *improved manner* of *combining buoyant chambers with steam boats or other vessels and* that *he does* not know or believe that the same has been before used or known; and that *he is a* citizen of the United States.

I. L. Smith, JP"

(To be continued in the February, 1958 issue.)

McMurtry's Speaking Itinerary

Amarillo, Texas. Jan. 8, 9, 10, 1958.
El Paso, Jan. 13, 14.
San Antonio, Jan. 16, 17.
Corpus Christi, Jan. 20, 21.
Houston, Jan. 22, 23.
Beaumont, Jan. 24, 27.
Dallas, Jan. 28, 29.
Fort Worth, Jan. 30, 31.
*Cleveland, Ohio, Feb. 6.
*Philadelphia, Pa., Feb. 8.
Minneapolis, Minn., Feb. 10.
Madison, Wis., Feb. 11, 12.
Milwaukee, Feb. 13, 14.
*Chicago, Ill., Feb. 18, 19.
Peoria, Feb. 20, 21.
Toledo, Ohio, Feb. 25, 26, 27.
Dayton, March 3, 4.
Columbus, March 5, 6, 7.

The persons who might be interested in learning of the schedule in detail in the various cities named above, may contact the general agency offices of the Lincoln National Life Insurance Company.

*Special engagements not arranged by general agent.

Specifications and Drawings

Specifications and scale drawings forming part of Letters patent No. 6,469, dated May 22, 1849, application filed March 10, 1849, Abraham Lincoln, manner of Buoying Vessels, may be secured from Department of Commerce, United States Patent Office, Washington, 25, D. C., for twenty-five cents.

No. 1440 Feb. 1958

From the Meserve Collection

George Bancroft
From an original negative by Brady

UPRISING OF THE PEOPLE

It is the glory of the late president that he had perfect faith in the perpetuity of the Union. . . . Whatever there was of truth and faith and public love in the common heart broke out with one expression. The mighty winds blew from every quarter to fan the flame of the sacred and unquenchable fire.

THE WAR A WORLD-WIDE WAR

For a time the war was thought to be confined to our own domestic affairs; but it was soon seen that it involved the destinies of mankind; its principles and causes shook the politics of Europe to the center, and from Lisbon to Pekin divided the Governments of the world.

GREAT BRITAIN

But its Government was become a Government of land, and not of men; every blade of grass was represented, but only a small minority of the people.

HER SENTIMENTS

They had not one word of sympathy for the kind-hearted poor man's son whom America had choosen for her chief; they jeered at his large hands and long feet and ungainly stature; and the British Secretary of State for Foreign Affairs made haste to send word through the palaces of Europe that the great Republic was in its agony, that the Republic was no more, that a head-stone was all that remained due by the law of nations to "the late Union."

HER POLICY

The Prime Minister in the House of Commons, sustained by cheers, scoffed at the thought that their laws could be amended at our request so as to preserve real neutrality; and to remonstrances now owned to have been just, their Secretary answered that they could not change their laws *ad infinitum*.

RELATIONS WITH ENGLAND

. . . but the best bower anchor of peace was the working class of England, who suffered most from our civil war, but who, while they broke their diminished bread in sorrow, always encouraged us to persevere.

NOTE: "The British minister in Washington thought the speech hostile and unfriendly, and on the 28th of the month Lord John Russell called at the American Embassy in London to lodge a formal note of protest. When Russell had been British Secretary of State for Foreign Affairs, Bancroft told Congress, he viewed the United States as 'the late Union,' and he had made haste to spread his opinion of it as such throughout Europe, hampering Lincoln's diplomatic efforts a great deal. Adams wrote in some concern to the historian, begging him to explain or to retract his remarks. 'As for the British,' replied Bancroft, 'if he had heard anything which displeased him he had only himself to blame; knowing that the gentleman might be present at the session, he had asked Seward to request him not to come.' Citing Russell's own official correspondence during 1861 the speaker proved that the Secretary had used the word late' four times in referring to the Union, and with a touch of arrogance, he told Adams, 'Pray send Lord Russell a copy of this letter, which he is at liberty to publish, and I consider myself equally at liberty to publish his letter, to which this is a reply. Nothing more was heard from Lord Russell.' " Russel B. Nye: *The Biography of George Bancroft*, page 234.

FRANCE AND THE MONROE DOCTRINE

The policy regarding further colonization of America by European Powers, known commonly as the doctrine of Monroe, had its origin in France; and, if it takes any man's name, should bear the name of Turgot.

THE EMPEROR NAPOLEON AND MEXICO

. . . word was brought us, in the moment of our deepest affliction, that the French emperor, moved by a desire to erect in North American a buttress for imperialism, would transform the republic of Mexico into a secundo-geniture for the house of Hapsburg . . . so that the imperial system of Mexico. which was forced at once to recognize the wisdom of the policy of the republic by adopting it, could prove only an unremunerating drain on the French treasury for the support of an Austrian adventurer.

NOTE: "Bancroft, protested the Austrian Minister Baron von Wydenbruck, referred to Emperor Maximilian of Mexico as an 'adventurer.' Was it not true, replied the State Department with delicate Irony, that in 1846 Austria declared itself completely uninterested in Mexican affairs." Russel B. Nye: *The Biography of George Bancroft*, page 234.

THE PERPETUITY OF REPUBLICAN INSTITUTIONS

A free State once truly constituted should be as undying as its people; the republic of Mexico must rise again.

THE POPE OF ROME AND THE REBELLION

The blessing of the Pope of Rome on the head of Duke Maximilian could not revive in the nineteenth century the ecclesiastical policy of the sixteenth; and the result is only a new proof that there can be no prosperity in the State without religious freedom.

THE PEOPLE OF AMERICA

The President was led along by the greatness of their self-sacrificing example; and as a child, in a dark night on a rugged way, catches hold of the hand of its father for guidance and support, he clung fast to the hand of the people, and moved calmly through the gloom.

THE EMANCIPATION PROCLAMATION

After vain resistance, Lincoln, who had tried to solve the question by gradual emancipation, by colonization, and by compensation, at last saw that slavery must be abolished or the Republic must die; and on the 1st day of January, 1862, he wrote liberty on the banners of the armies.

RUSSIA AND CHINA

Russia, whose emperor had just accomplished one of the grandest acts in the course of time by raising twenty million bondmen into freeholders, and thus assuring the growth and culture of a Russian people, remained our unwavering friend. From the oldest abode of civilization, which gave the first example of an imperial government with equality among the people, Prince Kung, the Secretary of State for Foreign Affairs, remembered the saying of Confucius, that we should not do to others what we would not that others should do to us, and in the name of the Emperor of China closed its ports against the war ships and privateers of "the seditious."

CONTINUANCE OF THE WAR

The war continued, with all the peoples of the world for anxious spectators. Its cares weighed heavily on Lincoln, and his face was plowed with the furrows of thought and sadness. With malice toward none, free from the spirit of revenge, victory made him importunate for peace; and his enemies never doubted his word or despaired of his abounding clemency.

LINCOLN'S ASSASSINATION

And at the moment of the height of his fame, to which his humility and modesty added charms, he fell by the hand of the assassin; and the only triumph awarded him was the march to the grave.

THE GREATNESS OF MAN

Not in vain has Lincoln lived, for he has helped to make this Republic an example of justice, with no caste but the caste of humanity.

THE JUST DIED FOR THE UNJUST

When I think of the friends I have lost in this war—and every one who hears me has, like myself, lost some of those whom he most loved—there is no consolation to be derived from victims on the scaffold, or from anything but the established union of the regenerated nation.

CHARACTER OF LINCOLN

The habits of his mind were those of meditation and inward thought, rather than of action. He excelled in logical statement, more than in executive ability. He reasoned clearly, his reflective judgment was good, and his purposes were fixed; but, like the Hamlet of his only poet, his will was tardy in action; and for this reason, and not from humility or tenderness of feeling, he sometimes deplored that the duty which devolved on him had not fallen to the lot of another. He was skillful in analysis; discerned with precision the central idea on which a question turned, and knew how to disengage it and present it by itself in a few homely, strong old English words that would be intelligible to all. He delighted to express his opinions by an apothegm, illustrate them by a parable, or drive them home by a story.

PALMERSTON AND LINCOLN

Palmerston is a shining example of the ablest of a cultivated aristocracy; Lincoln is the genuine fruit of institutions where the laboring man shares and assists to form the great ideas and designs of his country.

CONCLUSION

As the sum of all, the hand of Lincoln raised the flag; the American people was the hero of the war; and therefore the result is a new era of republicanism.

The memorial service which began at 12:30 p.m. came to an end at 3:25 p.m. when the Rev. Dr. Gray, Chaplain of the Senate gave the benediction. Then the members of the Senate, preceded by the president *pro tempore*, retired from the Hall and the Speaker of the House called the House of Representatives to order. Mr. Washburne, of Illinois, presented the only item of the agenda; a resolution of thanks to Hon. George Bancroft for "the appropriate memorial address" and "that he be requested to furnish a copy for publication." And then, on motion of Mr. Washburne of Illinois (at 3:35 o'clock) the House adjourned.

A. Lincoln
Manner of Buoying Vessels

(*Continued from the January,* 1958 *Issue*)

The specifications for Lincoln's patent follow:

"To all whom it may concern:

"Be it known that I, Abraham Lincoln of Springfield, in the County of Sangamon, in the State of Illinois have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessel for the purpose of enabling their draught of water to be readily lessened to enable them to pass over bars, or through shallow water, without discharging their cargoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification. Similar letters indicate like parts in all the figures.

"The buoyant chambers A, A, which I employ, are constructed in such a manner that they can be expanded so as to hold a large volume of air when required for use, and can be contracted, into a very small space and safely secured as soon as their services can be dispensed with.

"Fig. 1, is a side elevation of a vessel with the buoyant chambers combined therewith expanded;

"Fig. 2, is a transverse section of the same with the buoyant chambers contracted.

"Fig. 3, is a longitudinal vertical section through the centre of one of the buoyant chambers, and the box B, for receiving it when contracted, which is secured to the lower guard of the vessel.

"The top *g*, and bottom *h*, of each buoyant chamber, is composed of plank or metal, of suitable strength and stiffness, and the flexible sides and ends of the chambers, are composed of india-rubber cloth, or other suitable water-proof fabric, securely united to the edges and ends of the top and bottom of the chambers.

"The sides of the chambers may be stayed and supported centrally by a frame *k*, as shown in Fig. 3, or as many stays may be combined with them as may be necessary to give them the requisite fullness and strength when expanded.

"The buoyant chambers are suspended and operated as follows: A suitable number of vertical shafts or spars D, D, are combined with each of the chambers, as represented in Figs. 2 and 3, to wit: The shafts work freely in apertures formed in the upper sides of the chambers, and their lower ends are permanently secured to the under sides of the chambers: The vertical shafts or spars (D, D,) pass up through the top of the boxes B, B, on the lower guards of the vessel, and then through its upper guards, or some other suitable support, to keep them in a vertical position.

"The vertical shafts (D, D,) are connected to the main shaft C, which passes longitudinally through the centre of the vessel—just below its upper deck—by endless ropes *f*, *f*, as represented in Fig. 2: The said ropes, *f*, *f*, being wound several times around the main shaft C, then passing outwards over sheaves or rollers attached to the upper deck or guards of the vessel, from which they descend along the inner sides of the vertical shafts or spars D, D, to sheaves or rollers connected to the boxes B, B, and then rise to the main shaft (C,) again.

"The ropes, *f*, *f*, are connected to the vertical shafts at *i*, *i*, as shown in Figs. 1 and 2. It will therefore be perceived that by turning the main shaft C, in one direction, the bouyant chambers will be expanded into the position shown in Fig. 1; and by turning the shaft in and opposite direction, the chambers will be contracted into the position shown in Fig. 2.

"In Fig. 3, *e*,*e*, are check ropes, made fast to the tops of the boxes B, B, and to the upper sides of the bouyant chambers; which ropes catch and retain the upper sides of the chambers when lower sides are forced down, and cause the chambers to be expanded to their full capacity. By varying the length of the check ropes, the depth of immersion of the bouyant chambers can be governed. A suitable number of openings *m*, *m*, are formed in the upper sides of the buoyant chambers, for the admission and emission of air when the chambers are expanded and contracted.

"The ropes *f*, *f*, that connect the main shaft C, with the shafts or spars D, D, (rising from the buoyant chambers,) may be passed from one to the other in any direction that may be deemed best, and that will least incommode the deck of the vessel; or other mechanical means may be employed as the medium of communication between the main shaft and the buoyant chambers, if it should be found expedient.

"I shall generally make the main shaft C, in as many parts as there are corresponding pairs of buoyant chambers, so that by coupling the sections of the shaft together, the whole of the chambers can be expanded at the same time, and by disconnecting them, either pair of chambers can be expanded, separately from the others as circumstances may require.

"The buoyant chambers may be operated by the power of the steam engine applied to the main shaft C, in any convenient manner, or by man power.

"Where the guards of a vessel are very high above the water, the boxes B, B, for the reception of the buoyant chambers when contracted, may be dispensed with, and the chambers be contracted by drawing them against the under side of the guards. Or, protecting cases may be secured to the under sides of the guards for the reception of the buoyant chambers when contracted.

"When it is desired to combine my expansible buoyant chambers with vessels which have no projecting guards; shelves or cases must be strongly secured to their sides for the reception of the buoyant chambers.

"I wish it to be distinctly understood, that I do not intend to limit myself to any particular mechanical arrangement, in combining expansible buoyant chambers with a vessel, but shall vary the same as I may deem expedient, whilst I attain the same end by substantially the same means.

"What I claim as my invention and desire to secure by letters patent, is the combination of expansible buoyant chambers placed at the sides of a vessel, with the main shaft or shafts C, by means of the sliding spars or shafts D, which pass down through the buoyant chambers and are made fast to their bottoms, and the series of ropes and pullies, or their equivalents, in such a manner that by turning the main shaft or shafts in one direction, the buoyant chambers will be forced downwards into the water and at the same time expanded and filled with air for buoying up the vessel by the displacement of water; and by turning the shaft in an opposite direction, the buoyant chambers will be contracted into a small space and secured against injury.

A. Lincoln.

Witness:
Z. C. Robbins,
H. H. Sylvester."

The original Lincoln model does not embody all of the features noted in the specifications. For example, no provision is made in the original model for the application of "the power of the steam engine applied to the main shaft C," to expand the buoyant chambers. Likewise, the boxes B, B, for the reception of the buoyant chambers when contracted, do not appear on Lincoln's original model. However, Lincoln explained that the buoyant chambers could be expanded manually and that boxes for the buoyant chambers could be dispensed with if they were contracted and drawn against the under side of the guards.

The specifications for Lincoln's patent were published in 1850 in the "Report of the Commissioner of Patents for The Year 1849. Part I, Arts and Manufactures, Washington: Office of printers to House of Representatives. 1850." Lincoln's invention is described on page 262.

Lincoln's patent was for a period of fourteen years, expiring in the year 1863, without renewal. For a period of time the "western steamboat" was exhibited by the patent office, in a case designated as "Marine", and when Lincoln was installed as the Sixteenth President it is related that he had a messenger locate the model and bring it to the White House. Perhaps Lincoln derived a great deal of pleasure in seeing once against the model and exhibiting it before his friends. Later it was placed more conspicuously on exhibit in what was then known as the "Washington Case" at the patent office. Today the ship model is prominently displayed at the Smithsonian Institution.

When Lincoln applied for this patent the best mode of travel was by boat and the population of the nation was largely centered along the narrow fringe of the ocean and on navigable rivers. Railroads soon diverted traffic from the rivers, and Lincoln got involved deeper than ever into law and politics. Attorney Z. C. Robbins was of the opinion that Lincoln never received as much as a dollar for his patent number 6,469 "Improved Method of Lifting Vessels Over Shoals."

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January 31, 1958

Dr.R.Gerald McMurtry, Editor
The Lincoln National Life Foundation
Fort Wayne, Indiana

Dear Dr.McMurtry:

We read with interest the January issue of "Lincoln Lore." The Daniel Webster letter reproduced on page 2 is of special interest. We note that you interpret the first sentence as follows:

"Mr. Eubank is yet in the South."

It looks to us as if it reads:

"Mr Ewbank is yet in doubt."

That throws a different construction on it! Just a minor matter, perhaps, but we want to call it to your attention in the interests of accuracy.

Very truly yours,

ROBERT C. SALE
State Librarian
Marjorie E. Hartman
Mrs.H.L.Hartman, Chief
Dept.of Local History and Genealogy

February 10, 1958

Mrs. H. L. Hartman
Chief Department of
Local History and Genealogy
Connecticut State Library
Capitol Avenue
Hartford 15, Connecticut

Dear Mrs. Hartman:

Thank you for calling our attention to the Daniel Webster letter which is reproduced on page 2 of the January 1958 issue of Lincoln Lore.

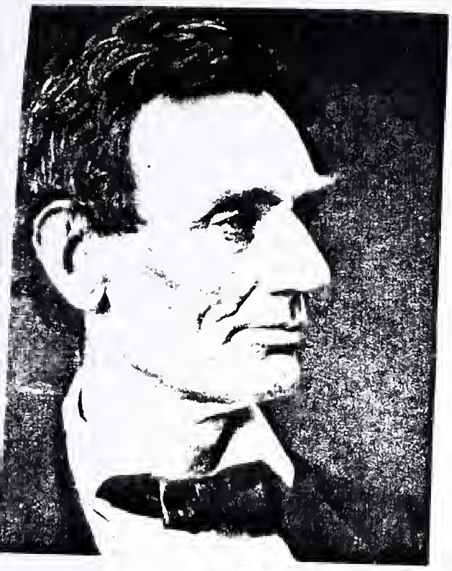
It now appears quite obvious that "in the South" should rather be "in doubt."

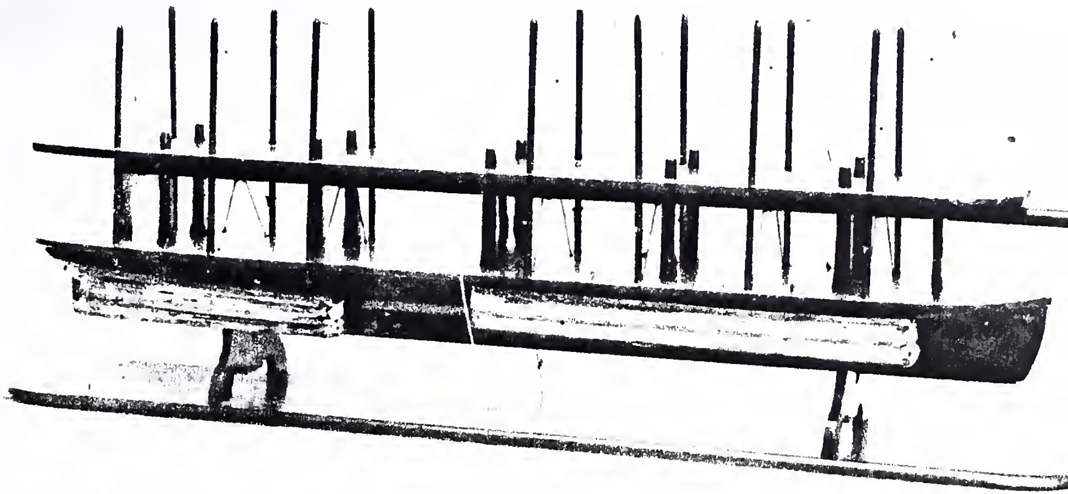
Sincerely yours,

(Miss) Margaret Moellering

MM:hw

The AMERICAN WEEKLY FEBRUARY 9, 1958





Lincoln (*see footnote) and the ship model, now in the Smithsonian, he sent with his patent req

By FRANK GROOM KIRTZ

A. Lincoln - INVENTOR

He never made a nickel on a device now used by all modern submarines

One day soon the *Skipjack,* our newest and most versatile nuclear submarine, will begin to surface from her maiden plunge. As her skipper gives the signal to empty her tanks of water, it is doubtful if he or any member of the crew will realize that the *Skipjack,* like a long line of her undersea forebears, is operating on a principle invented and patented by Abraham Lincoln.

Lincoln was no mechanical genius, but anything that required an inventive turn of mind always interested him. In September of 1848 he was returning through the Erie Canal from a stumping trip to New England and stopped off to see Niagara Falls. Shortly after his steamer left the resort it stranded on a sandbar.

Lincoln watched with fascination while the crew brought out empty casks from the hold, sealed them and forced them under the hull. It was a slow, laborious process, but eventually the buoyancy of the casks lifted the boat off the bar.

Inspired by the amazing mechanical progress he had just been observing in industrial New England, Lincoln hit upon a much more efficient method of arriving at the same degree of buoyancy. As soon as he got back to Springfield he turned a corner of his law office into a work bench and began to whittle out a wooden model of a steamship.

His conception differed from the ordinary boats of the day in that it carried its drinking water in tanks and also used water tanks in lieu of ballast. If his craft got stuck, pumps would empty the tanks and increase the buoyancy.

"I expect great things of this," Lincoln told his law partner, William H. Herndon, who was not particularly impressed. When the model was completed Lincoln made a sketch and wrote a description of its workings for his patent application. He was granted Patent No. 6469, thereby becoming—eventually, of course—the only President of the United States to have received a patent.

Boatbuilders of the day stubbornly resisted any such new-fangled idea, and neither fame nor fortune resulted from the invention, but in the course of time submarine builders found Lincoln's air-or-water tanks indispensable. Today all submarines use this principle.

Although his invention was a flop temporarily, Lincoln was asked to give a lecture on "Discoveries and Inventions" (admission 25 cents) for the Springfield Library Association. In it he observed that the patent system of the United States "added the fuel of incentive to the fire of genius."

Then he humorously remarked that "man's first discovery was the fact that he was naked; and his first invention was the fig-leaf apron."

As President, Lincoln was more than ever involved with inventions. Every mechanic in the North seemed to be trying to bring the war to an end by inventing the "ultimate weapon." Lincoln personally investigated more than 200 proposals, and his comments were usually constructive.

He frequently participated in tests of new or improved ordnance. It is recorded that on one occasion he was test-firing a new type of Spencer carbine and remarked that he thought he could make a better sight for it, whereupon he sat down and whittled one out of wood. He is credited with sponsoring balloons for military observations.

When the government was testing a new rocket, Lincoln moved to observe all the details. As in another important test of recent memory, this rocket failed to leave its launcher and exploded. If the blast had been much nearer the man whose 149th birthday is being observed next Wednesday, history would have had to be rewritten. ◄◄

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* This photograph of Lincoln was taken by Alexander Hesler in 1860 in Springfield, Illinois, as a Presidential campaign portrait. It is the likeness which introduced Lincoln to the nation. This print is made from a duplicate glass negative owned by King V. Hostick of Springfield, who discovered it in 1952 and copyrighted it in 1956.

10/ The full text appears in 2 Coll. Wks. 115-116.

11/ Woldman, fn. 1 supra, p.10.

12/ Frank A. Golder, Russian-American Relations during the Crimean War, 31 Am. Hist. Rev. 464(1925-26).

LINCOLN ON THE PATENT SYSTEM

Editor's note: The United States Patent Office has the original patent file of the Lincoln patent No. 6,469 for a Device for Buoying Vessels over Shoals. Through the efforts of Editor Emeritus Bert Sheldon, and the courtesy of the Commissioner of Patents, Hon. Robert C. Watson, and Mr. E. A. Norwig of his office, the following article was prepared in October 1958 concerning a statement by Lincoln on the patent system.

* * *

"The Patent System Added the Fuel of Interest
to the Fire of Genius." -- Abraham Lincoln.

This classic statement by Lincoln is probably the most widely quoted statement of anyone concerning the United States Patent System. It is frequently used in lectures and speeches by those who have occasion to discuss patents, inventions, or the Patent Office. It may be found in articles relating to politics, economies, or industrial property, and probably can be found in statements of witnesses who have appeared before Congressional committees dealing with the subject of patent legislation.

The inscription chiseled in the stone above the west entrance to the Patent Office on 15th Street, N.W., in Washington, D.C. is another rather permanent repetition of the Lincoln statement. It is said to have had its origin in a Lecture on Discoveries, Inventions and Improvements, made by Lincoln at Springfield, Illinois, February 22, 1859. The complete passage showing the statement underlined reads as follows:

> "Next came the patent laws. These began in England in 1624, and in this country with the adoption of our Constitution. Before then, any man might instantly use what another man had invented, so that the inventor had no special advantage from his invention. The patent system changed this, secured to the inventor for a limited time exclusive use of his invention and added the fuel of interest to the fire of genius in the discovery and production of new and useful things."

Articles published in the Journal of the Patent Office Society indicate that Lincoln had a deep interest in the general subject of invention. In 1858 he was nominated for the Senate, and while he won fame by his speeches during the election campaign, he was not elected. His funds were very low at this time, so he decided to try lecturing in order to raise some money. He chose the subject of "invention" and the now historical statement apparently was made in 1859. However, he probably made more than one talk on inventions, since a lecture entitled "Discoveries and Inventions," printed in the Sunset Magazine in 1909, and reprinted in the Journal of the Patent Office Society, in May 1928, is alleged to have been made in 1860.

The title page of "The Story of the United States Patent Office 1790 - 1956" also uses Lincoln's statement along with companion statements on the value of the patent system by Thomas Jefferson, Franklin D. Roosevelt, and Dwight D. Eisenhower.

Lincoln is the only person who obtained a United States patent, and also was President. This fact, along with his obvious interest in inventions, and the recorded references to his activities as a lawyer handling patent litigation is a phase of his life seldom discussed or written about. Goldsmith in his article on Lincoln in the January 1938 Journal of the Patent Office Society sums up this phase in the final paragraph in the following words:

> "Lincoln may have been unsuccessful as an inventor, equally so as a patent lawyer. But his failures never led him to lose faith in the Patent System or in invention as a benefactor of mankind and the driving force of progress. The picture of Lincoln the inventor and patent lawyer, reflects anew the qualities in the man which have placed him among our country's greatest figures."

ADVANCE PUBLICATION NOTICE BY JOHN C. WINSTON COMPANY OF BOOK BY VICTOR SEARCHER ON

"Lincoln's Journey to Greatness"

This clothbound book will be published on April 25, 1960 and will sell for $4.95. This book is a factual re-creation of President-elect Lincoln's dramatic twelve-day inaugural trip from Springfield, Illinois to the White House.

Through the courtesy of our Editor Emeritus, Carlton J. Corliss, we have been able to obtain the following synopsis:

On the rainy morning of February 11, 1861, Abraham Lincoln bade farewell to his beloved Springfield and began one of the least known but most dramatic periods of his life. He was about to make a long cross-country twelve-day trip to Washington for his first inaugural. It was not to be a simple journey from one place to another. Lincoln meant to stop at every crossroad and city to meet the people, to gauge the direction and depth of their passion as citizens of a divided and embittered Republic...

Until now there never has been a complete, detailed and authentic account of this important trip and its far-reaching events.

The trip is re-created exactly as it happened. Nothing is surmised. Every bit of the exciting narrative is solid fact culled from authoritative sources, contemporary newspapers, original documents. Lincoln's speeches are preserved verbatim. We see his motivations; his reactions to the vast enthusiastic crowds; his political sagacity and native wisdom and sincerity. Above all, we watch Abraham Lincoln leave Springfield, a private citizen...and arrive in Washington a statesman dedicated to the preservation of "this Union, under God."

BOOK REVIEW

BY ELDEN E. "JOSH" BILLINGS

The Web of Conspiracy. By Theodore Roscoe. Englewood Cliffs, N.J. Prentice Hall (1959), 562 pp., $10.00.

The author has attempted to unravel the mystery connected with the assassination of Abraham Lincoln. Official government suppression of significant facts, curious (to say the least) government policy, myths and legends have obscured the real facts behind Booth's crime. Roscoe has wended his way skillfully through

New York Times
January 17 1984

GOING OUT Guide

INVENTIONS

A coffin for someone who may not be dead and a pigeon-startler are among the more than 500 miniature inventions that can be seen today through April 1 at the Cooper-Hewitt Museum, 2 East 91st Street.

The items are working models of new or improved devices; inventors were required to send them along with applications to the United States Patent Office between 1836 and 1880.

So one fellow sent a coffin with ventilation holes in the lid, just in case its inhabitant turned out to be only temporarily in repose. A string tied to the body's wrist is connected to a bell to signal the situation.

Other items include a rocker with a music box inside, a device by Abraham Lincoln for lifting boats over shoals, "ice" skates with wide blades for skating in living rooms, and a square box that opens up into a combination bed, chair, table and night stand.

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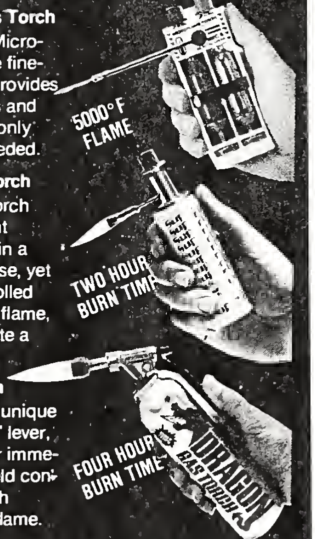

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PATENTLY UNUSUAL

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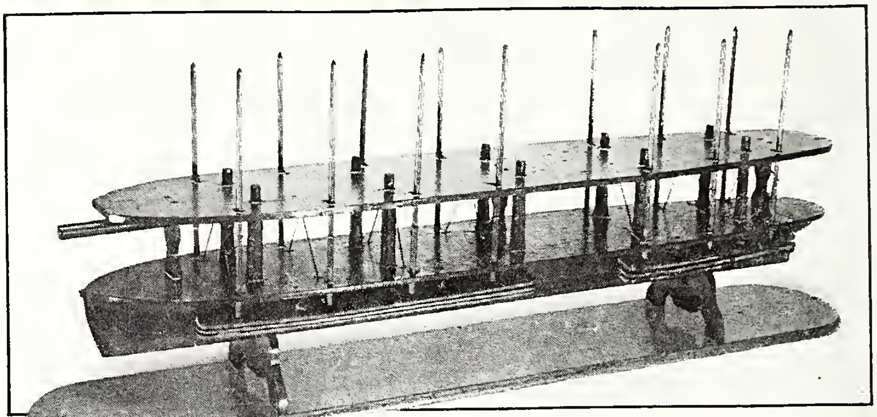
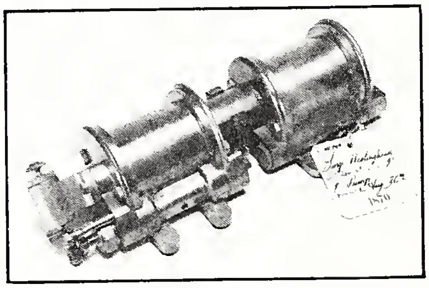


Abe Lincoln's patent model for a new riverboat.

Imagine, if you will, a young lawyer named Abe Lincoln sitting before the fire whittling a piece of pine. With store-bought dowels and tiny scraps of wood, he fashions the body of a miniature riverboat. For Lincoln, and hundreds of 19th century inventors, such whittling was not just a hobby.

From 1836 until 1880, the United States Patent Office required every inventor to submit a scale model with his patent application. Lost records and passing centuries have made it difficult to state the exact number of patent models built in those years, but a conservative estimate of 50,000 draws few arguments. Today, fewer than 1,000 of these models are accounted for, about 500 of which are on exhibit this spring at the Smithsonian Institution's Cooper-Hewitt Museum in New York City.

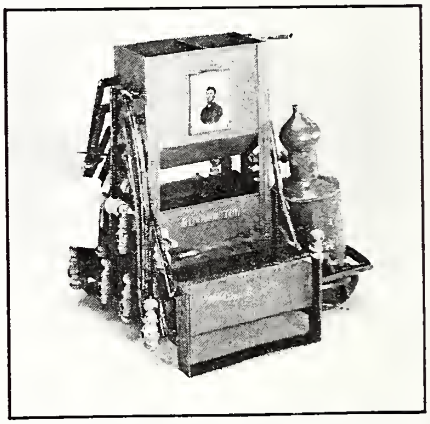


The Westinghouse pump, patented in 1870, looked ahead to efficient cylindrical valves.

Lincoln's 1849 model of a steamboat contained tall, thin air-filled "buoyant chambers." When the piston in the buoyant chamber moved down, it would drive air out, causing Lincoln's boat to sit higher in the water and pass over sand bars. A production model was never constructed.

In 1870, George Westinghouse turned in a model of his steam engine and pump system. His model called for a conical valve in the pump, but in the patent application, Westinghouse, father of the appliance and engineering company that bears his name today, reserved the right to go with a cylindrical valve instead. A cylindrical valve, he noted, might be more efficient. Indeed, it eventually became the standard shape for such valves.

John Leedy, who was granted over a score of patents during the Civil War, introduced a patent model for a sugar evaporator in 1862. There was a shortage of sugar in the North back in those days, and his evaporator was designed to draw the sweetener from sorghum for the efficient manufacture of whiskey.



John Leedy's sugar evaporator was to overcome a Civil War whiskey shortage.

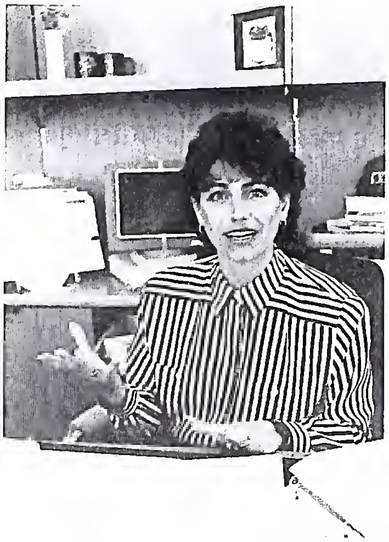
If you think you've come across an old patent model, send me a photograph and a brief description and we'll try to verify it for you. The Smithsonian would be interested in your find.

—Dennis Eskow

PHOTOS BY KIM NIELSEN SMITHSONIAN INSTITUTION

LNC Company News May 31, 1991

Did you know? Lincoln had a patent



Judy Davis

Abraham Lincoln was the only U.S. President to obtain a patent. His Patent Number 6964 was for a flotation device to lift ships through shallow waters.

As she followed progress of the Lincoln National Risk Management patent application, Judy Davis, Law, researched President Lincoln's patent in books by Mark Neely, director of The Lincoln Museum.

"Neely writes "President Lincoln had a very inquisitive mind and natural aptitude for innovation. His invention has never been put on any boat so far as known, but his ingenious idea may have inspired modern submarine technology."

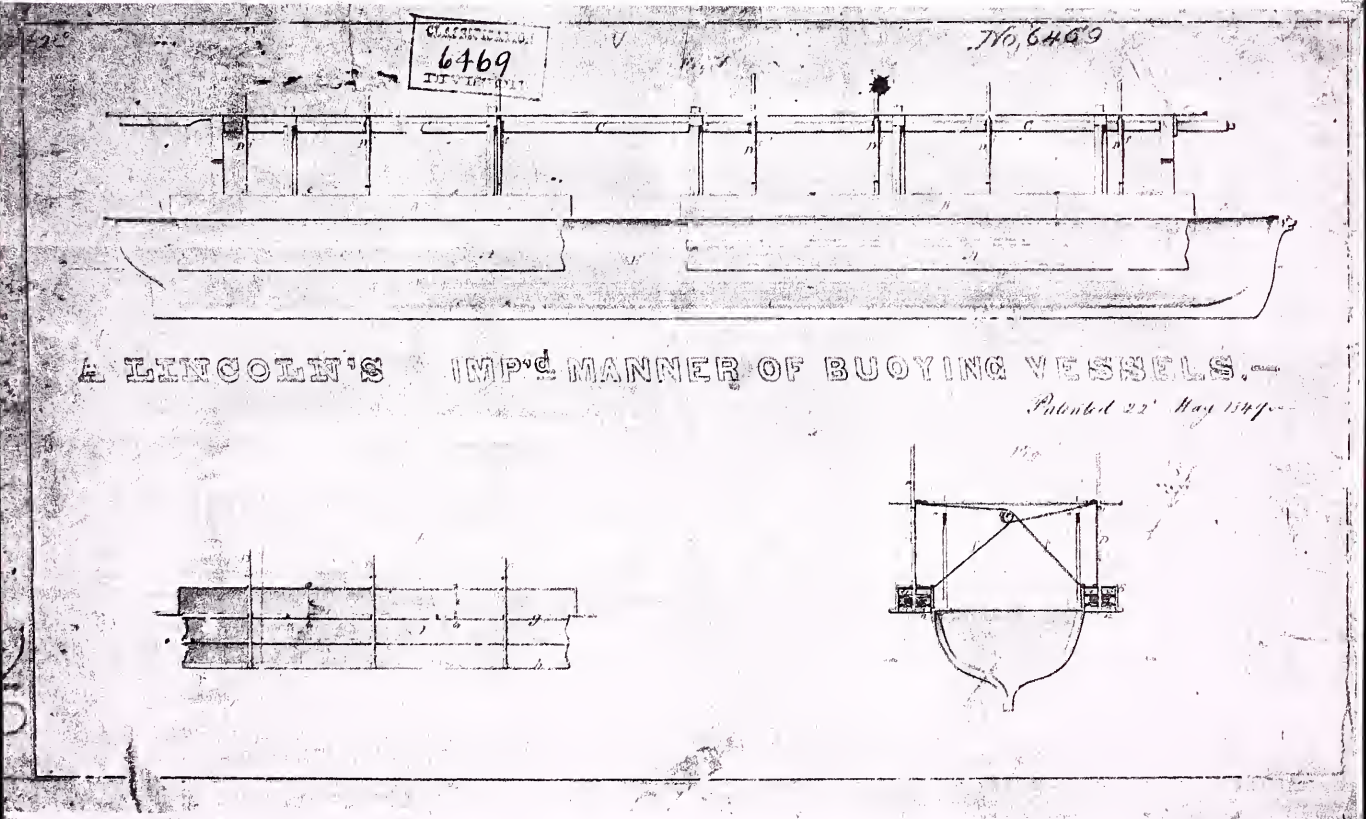
"The LNRM patent was issued after nearly two years of examination by the Patent Office. This is about two years sooner than it would have been issued had we not asked the Patent Office to put it on an expedited track for review.

"President Lincoln's attorney filed for a patent on March 10, 1849. The patent was issued on May 22, 1849, approximately two months after filing. Lincoln paid a total of $50 in fees — $30 for patent filing fees and $20 for attorney's fees. Today, the filing and attorney's fees together can total $10,000 to $20,000, not including internal staff time," Davis said.

"Although the timing and fees have changed over the years, the innovative spirit of Lincoln is carried on by the company that bears his name," Davis added.

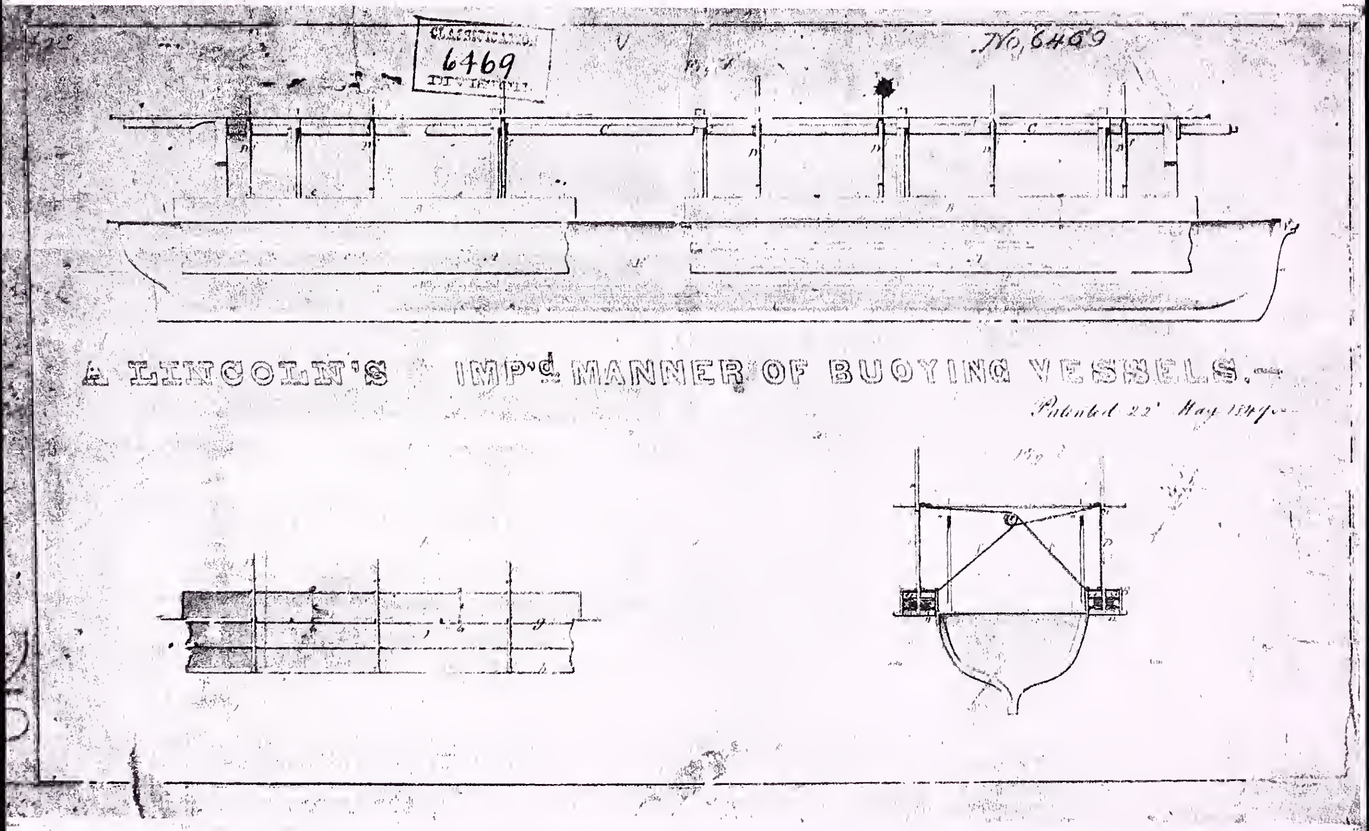
This charcoal sketch by an unknown artist is from The Lincoln Museum.

Tuesday, May 11, 1999
The Pantagraph
BLOOMINGTON IL



"new and improved manner of combining adjustable buoyant chambers with steamboats or other vessels" was the title of Lincoln's patent, the plan for which is illustrated above.

Bloomington IL



"new and improved manner of combining adjustable buoyant chambers with steamboats or other vessels" was the title of Lincoln's patent, the plan for which is illustrated above.

Lincoln's patent

By JAMES KEERAN
Pantagraph staff

It is quite possible that a day 150 years ago this month was among the happiest days in the life of Abraham Lincoln.

Surely the days his children were born would be included in that list, perhaps even the day he was married, although he seemed to have been something of a reluctant suitor and more than one historian has suggested that Mary Todd may have worked her feminine wiles so as to bring about the wedding sooner than he may have liked.

But even the casual student of the 16th president knows he was interested in many things and that he thought deeply on a wide range of ideas.

So it isn't much of a leap to imagine that May 22, 1849, the day Abraham Lincoln was granted a patent for his "new and improved manner of combining adjustable buoyant chambers with steamboats or other vessels" was a very happy one for him.

That happiness now has carried over to Jane Running, patent and trademark librarian at the Illinois State Library, because she has procured the official recreation of the model of Lincoln's invention on loan from the Smithsonian Institution in Washington, D.C., for public display at the state library in Springfield.

The story of how Lincoln came to invent something, and subsequently become the only American president ever to be granted a patent, may have begun when he lived in New Salem and watched as men freed boats stuck on sandbars in the Sangamon River, a laborious process of unloading cargo and passengers, and shifting the weight of what was left aboard until the stuck boat floated free.

Many years later, between sessions of Lincoln's only term in Congress, he and Mary and John Nicolay, who would become one of his personal secretaries when he was president, were aboard the Globe, steaming through the Great Lakes from Buffalo, N.Y., to Chicago on their way home to Springfield.

There, in the Detroit River, between Lake Erie and Lake St. Clair (and then Lake Huron), the Globe, or another nearby vessel (what few historical accounts exist are vague), ran aground. Again the future president had the opportunity to watch the crews free the ship, and perhaps an idea was born.

Biographer Ida Tarbell picked up the story in her 1890 "Life of Lincoln:"

"When he reached Springfield he began to build a model representing his idea. He showed the deepest interest in the work and Mr. (William) Herndon (Lincoln's law partner) says he would sometimes bring the model into his office and while whittling on it would talk of its merits and the revolution it was going to work on the western rivers."

Thomas Schwartz, Illinois state historian and a noted Lincoln scholar, believes Walter Davis, a Springfield mechanic, "actually built the model with Lincoln's guidance."

Lincoln may have actually carved some of it himself, Schwartz said, but "he surely wouldn't have had the time" to do it by himself.

The mechanic and the lawyer/inventor tested the model in a water trough on the square of the Old State Capitol.

While he did not stand for re-election to the House, he spent the month of October 1849 campaigning throughout Illinois for Zachary Taylor over Martin Van Buren for the presidency, and late in November, he left for Washington to complete his term.

"When Lincoln returned to Washington," Tarbell wrote, "he took the model with him, and through Mr. Z.C. Robbins, a lawyer of Washington, secured a patent . ...

" 'He walked into my office one morning with a model of a western steamboat under his arm,' says Mr. Robbins.

" 'Thereupon he instructed me to prepare the necessary drawings and papers and prosecute an application for a patent for his invention .... I complied with his instructions and in due course ... procured for him a patent that fully covered ... his improved steamboat. The identical model that Mr. Lincoln brought to my office can now be seen in the United States patent office.'"

Prior to 1880, the patent office required a model, along with a written description and a statement of how the invention was new or an improvement on something else, when a patent was applied for. But by then the office, Running said, had begun to run out of storage room.

The first United States patent was issued on July 31, 1790, and Lincoln's was number 6,469, so, said Running, one can imagine the space required to store all those models.

There is no historical record that Lincoln's invention was ever manufactured or put in use, or that Lincoln even tried to get it manufactured, Running said.

"Just because you build a better mouse trap doesn't mean anybody cares."

The original model, made by Walter Davis, now resides in the Smithsonian's Museum of American History in Washington, along with the original drawings. The model is not allowed outside. The drawings may be exhibited in other settings, Running said, but the Smithsonian requires a 24-hour-a-day guard for them.

As it is, the library still had to meet certain police, fire safety, electrical and light quality specifications just to get the reproduction model.

It is on display in a glass case on the second floor of the library through Nov. 15. Also on permanent display at the library are paintings by Bloomington artists James Butler and Harold Gregor and photographs by Rhondal McKinney.

The library is open from 8 a.m. to 4:30 p.m. weekdays.

THE OBJECT AT HAND

Patent Model

NATIONAL MUSEUM OF AMERICAN HISTORY

INVENTIVE ABE

In 1849, a future president patented an ingenious addition to transportation technology

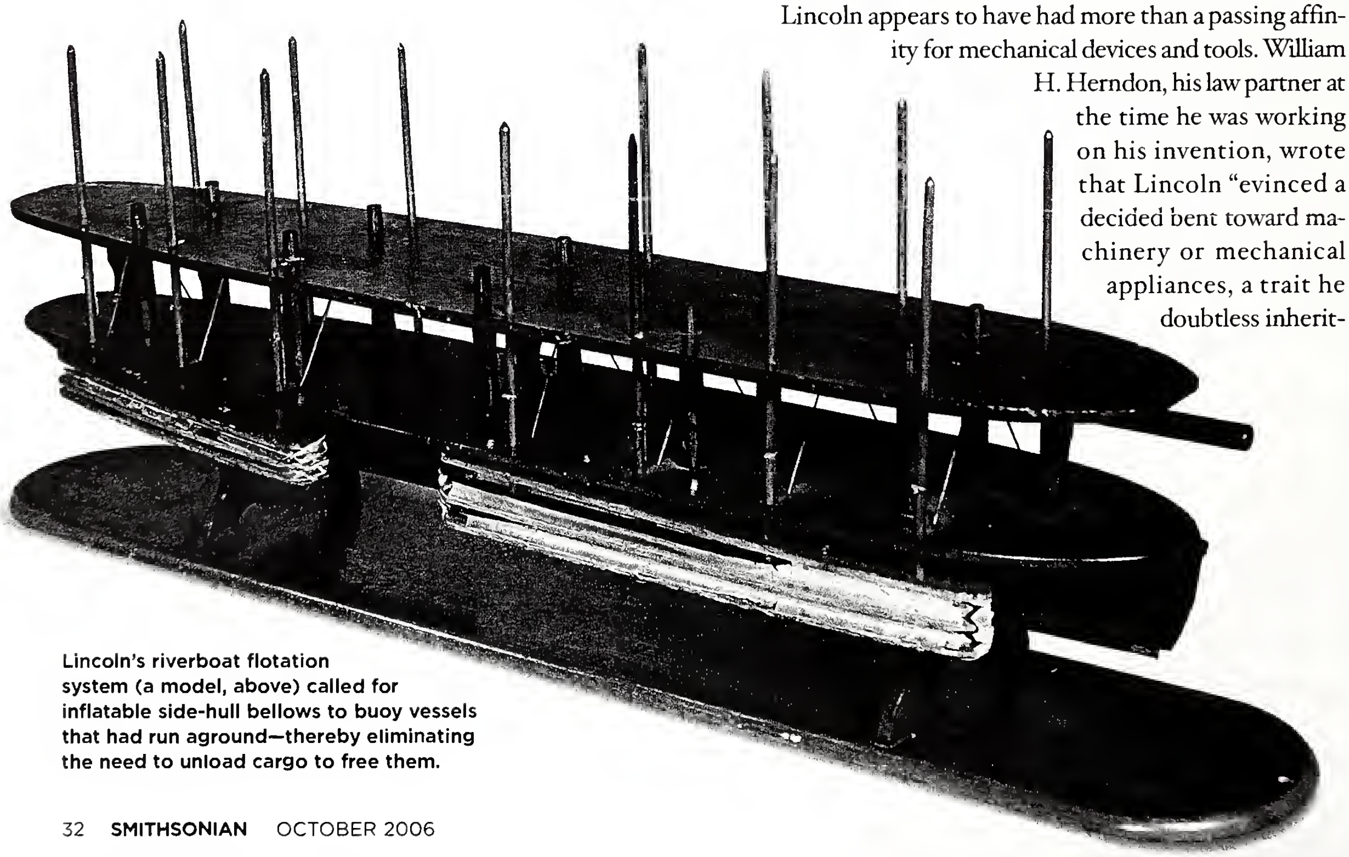
BY OWEN EDWARDS

UPON HEARING the name Abraham Lincoln, many images may come to mind: rail-splitter, country lawyer, young congressman, embattled president, Great Emancipator, assassin's victim, even the colossal face carved into Mount Rushmore. One aspect of this multidimensional man that probably doesn't occur to anyone other than avid readers of Lincoln biographies (and SMITHSONIAN) is that of inventor. Yet before he became the 16th president of the United States, Lincoln, who had a long fascination with how things worked, invented a flotation system for lifting riverboats stuck on sandbars.

Though his invention was never manufactured, it serves to give Lincoln yet another honor: he remains the only U.S. president to have a patent in his name. According to Paul Johnston, curator of maritime history at the National Museum of American History (NMAH), Lincoln's eminence and the historical rarity of his patent make the wooden model he submitted to the Patent Office "one of the half dozen or so most valuable things in our collection."

Lincoln's patent, No. 6,469, was granted on May 22, 1849, for a device for "Buoying Vessels Over Shoals," when he was back in Springfield practicing law after one term as an Illinois congressman in Washington. His idea, to equip boats with inflatable bellows of "india-rubber cloth, or other suitable water-proof fabric" levered alongside the hull, came as a result of river and lake expeditions he made as a young man, ferrying people and produce on the Mississippi and the Great Lakes. At least twice his boats ran aground on sandbars or hung up on other obstacles; given the Big River's ever-shifting shallows, such potentially dangerous misadventures happened often. Freeing a beached vessel usually involved the laborious unloading of cargo until the boat rode high enough to clear the snag. According to Harry R. Rubenstein, chair of the Division of Politics and Reform at NMAH, Lincoln "was keenly interested in water transportation and canal building, and enthusiastically promoted both when he served in the Illinois legislature." He was also an admirer of patent law, famously declaring that it "added the fuel of interest to the fire of genius."

Lincoln appears to have had more than a passing affinity for mechanical devices and tools. William H. Herndon, his law partner at the time he was working on his invention, wrote that Lincoln "evinced a decided bent toward machinery or mechanical appliances, a trait he doubtless inherit-



Lincoln's riverboat flotation system (a model, above) called for inflatable side-hull bellows to buoy vessels that had run aground—thereby eliminating the need to unload cargo to free them.

ed from his father who was himself something of a mechanic. . . . "

The precise source of the model of the flotation device is unclear, though there's no doubt that the ingenuity behind it was Lincoln's. Herndon wrote about Lincoln bringing the wooden boat model into the law office, "and while whittling on it would descant on its merits and the revolution it was destined to work in steamboat navigation." A Springfield mechanic, Walter Davis, was said to have helped with the model, which was just over two feet long. But Johnston thinks it's possible that the detailed miniature Lincoln submitted may have been made by a model maker in Washington who specialized in aiding inventors. "The name engraved on top of the piece is 'Abram Lincoln,'" Johnston says. "It doesn't seem likely that if Lincoln had actually made this model, he'd have misspelled his own first name." Johnston says that the answer—yet undetermined—may lie in whether the misspelled name is also engraved under the original varnish, indicating the model to be a commission.

The patent application for the device has a similar mystery. Part of the U.S. Patent Office collection, the document describes in detail how "by turning the main shaft or shafts in one direction, the buoyant chambers will be forced downwards into the water and at the same time expanded and filled with air." But it is missing the inventor's signature. Someone, probably in the early 20th century, cut Abe's signature out of the document—the autograph collector as vandal.

Since no one ever tried to put the invention to use, we can't know for sure if it would have led to the revolution in steamboat navigation that Lincoln predicted. But "it likely would not have been practical," says Johnston, "because you need a lot of force to get the buoyant chambers even two feet down into the water. My gut feeling is that it might have been made to work, but Lincoln's considerable talents lay elsewhere."

OWEN EDWARDS *is executive editor of* Edutopia, *a magazine about education.*

MARK HANAUER; KIM ZWARTS; HIRSHHORN MUSEUM AND SCULPTURE GARDEN, S.I.

Q&A

THOM MAYNE, a progressive architect in Santa Monica, California, has won a National Design Award, to be presented this month by the Smithsonian's Cooper-Hewitt Museum. He spoke with Katy June-Friesen.

DESCRIBE THE NEW ORLEANS JAZZ PARK YOU'VE BEEN ASKED TO DESIGN. It's a 17-acre, four-block-long park that contains pavilions for performances and the jazz center itself, and a new courthouse and the chambers portion of the city hall. It looks like it's going to include some housing and other pieces, which we're still developing. It will clearly become the civic—and music, and entertainment—center of the city.

Mayne stream: Klagenfurt, Austria

IT'S SAID YOU'VE BEEN BUILDING "GREEN." WHAT DOES THAT MEAN TO YOU? We have a building [the San Francisco Federal Building], and we've taken the air conditioning out of its tower—out of about 70 percent of it—and all of a sudden we're, like, green architects. We naturally ventilated it, which sounds so simple but is actually incredibly complicated. I think green architecture is a 1960s and '70s idea that became kind of [single-minded]. I'm interested in a broader set of issues: ecology, political and economic reality, construction techniques and technology.

WOULD YOU HAVE THOUGHT 30 YEARS AGO THAT YOU'D BE WORKING WITH THE GOVERNMENT NOW? Not at all. My friends all tease me it couldn't have been more unlikely. . . . It amazes me that you find people who are in alignment with your ideas. And in that case, it's not about being radical, it's just solving problems straight ahead; looking at the workforce and challenging notions about what workplaces are.

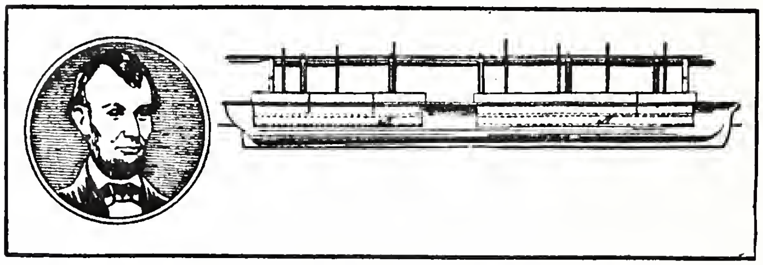
SO ARE YOU STILL EMBRACING THE "BAD BOY" OR "OUTSIDER" MONIKER? Well, you have to be outside to be an artist. It's not just making beautiful things, it's making things that speak about the world and represent some sort of critique.

Visit Smithsonian.com for more of the Q&A with Thom Mayne.

Who's Counting?

211 works of art by Pablo Picasso are in the collection of the Hirshhorn Museum and Sculpture Garden (his 1934 *Woman in a Hat*). The artist was born in Málaga, Spain, 125 years ago this month.

Lincoln's Birthday Recalls His Novel But Forgotten Invention



Sketch illustrating Lincoln's application for a patent for a new and improved method of buoying vessels over shoals. The letters "A" mark the location of the buoyant chambers.

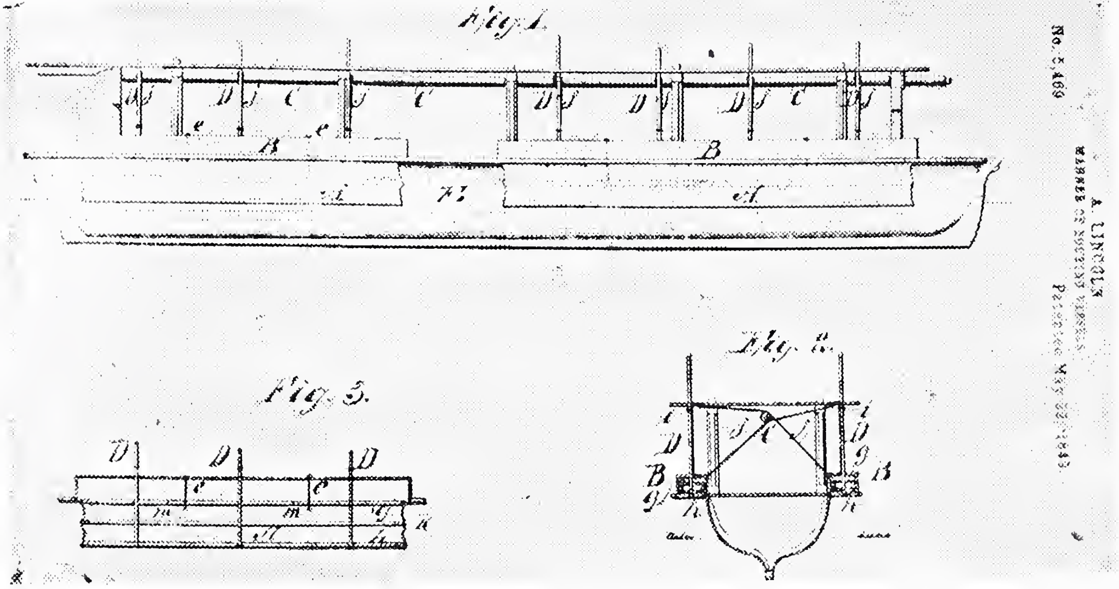
Abraham Lincoln, whose birthday we commemorate this month, included a bent for inventing among his many interests, according to the Inventors Foundation, New York city.

After a trip on the Mississippi, during which his ship probably stranded several times, the man who was to be President of the United States at a great crisis in its history invented and patented what he described as a "new and improved method of buoying vessels over shoals." The date the invention was patented was May 22, 1849.

The idea was to have a buoyant chamber on each side of the ship. The chambers were to be collapsible. As the vessel approached shallow water they were to be inflated, lifting the ship and making it draw less water. The invention never proved practicable and Lincoln was not as successful in this field as he was in others.

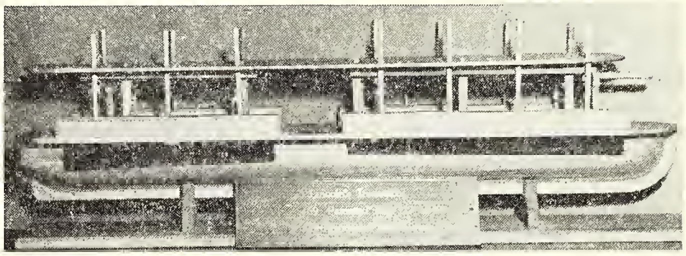
Organized to provide inventors with authoritative data, the Inventors Foundation refers to Lincoln's invention as an illustration of the fact that many factors besides the ingenuity and novelty of the idea determine the success of an invention. The Foundation works in co-operation with New York University, the International Correspondence Schools, and Stevens Institute of Technology, in offering information and guidance to ambitious inventors.

Abraham Lincoln, the Inventor



An invention to lift boats by buoyant air chambers far enough in the water to help them over shoals was patented by Abraham Lincoln on May 22, 1849. This is a diagram he filed with the patent office and it was recently discovered in an old safe. (Acme Photo.)

ABE LINCOLN, INVENTOR

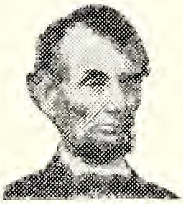


This is a facsimile of a model of a river boat on which Abraham Lincoln obtained letters patent on May 22, 1849.

Lincoln's invention was an improvement for lifting vessels over shoals by means of a bellows on either side of the hull which were intended to buoy up the vessels when in danger of grounding on a reef or other obstruction.

The original model is now in the Lincoln Exhibit of the Smithsonian Institution. The facsimile is from the collection of Carl W. Schaefer, Cleveland attorney.

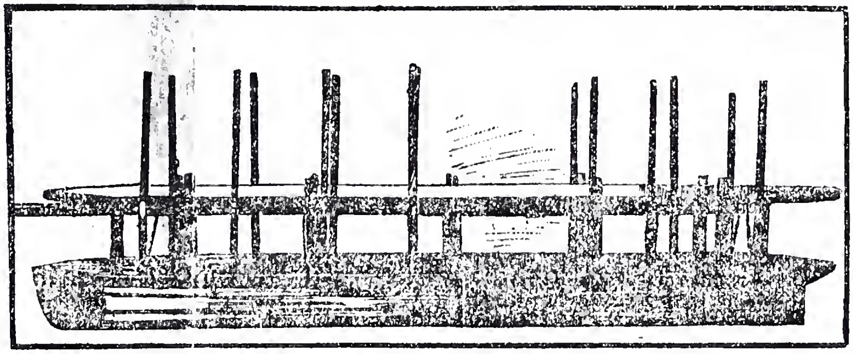
This interesting Lincoln item is being featured during the month of January in our Lincoln Museum. We cordially invite you to view it and the many other Lincoln items on display there.



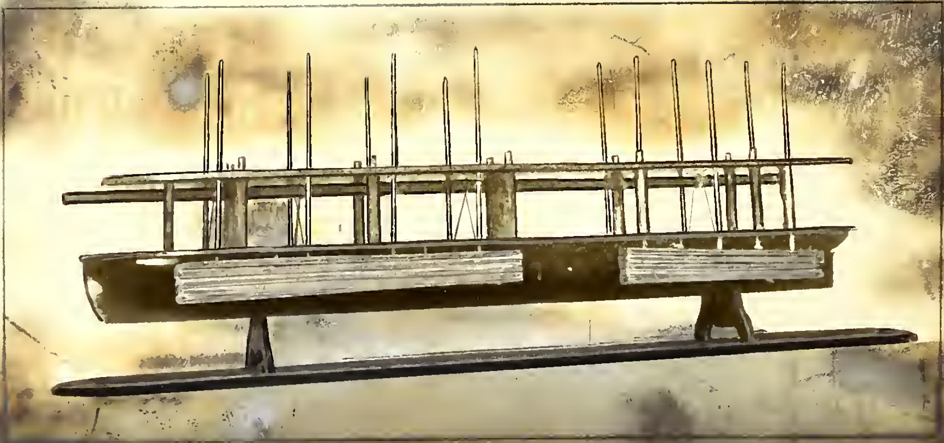
THE LINCOLN NATIONAL
LIFE INSURANCE COMPANY

Its Name Indicates Its Character

MODEL OF LINCOLN'S ONLY PATENT

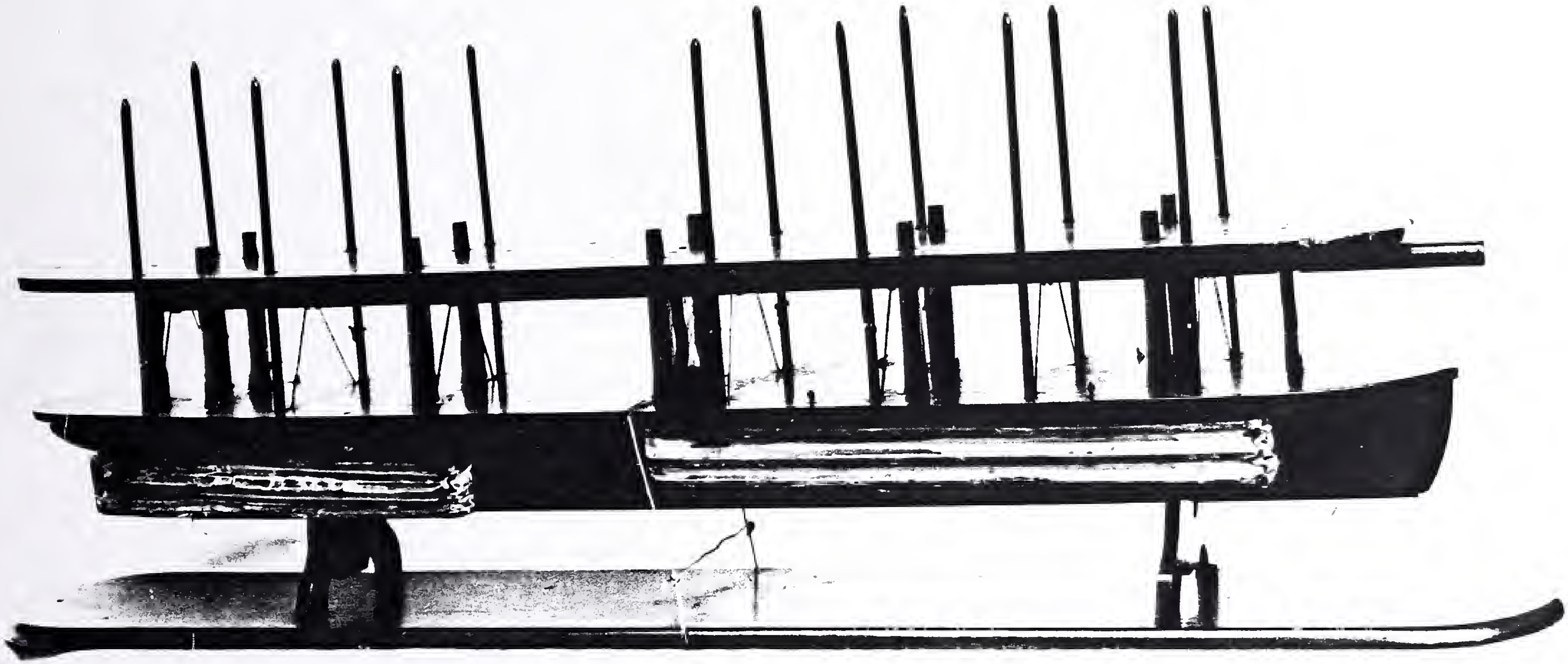


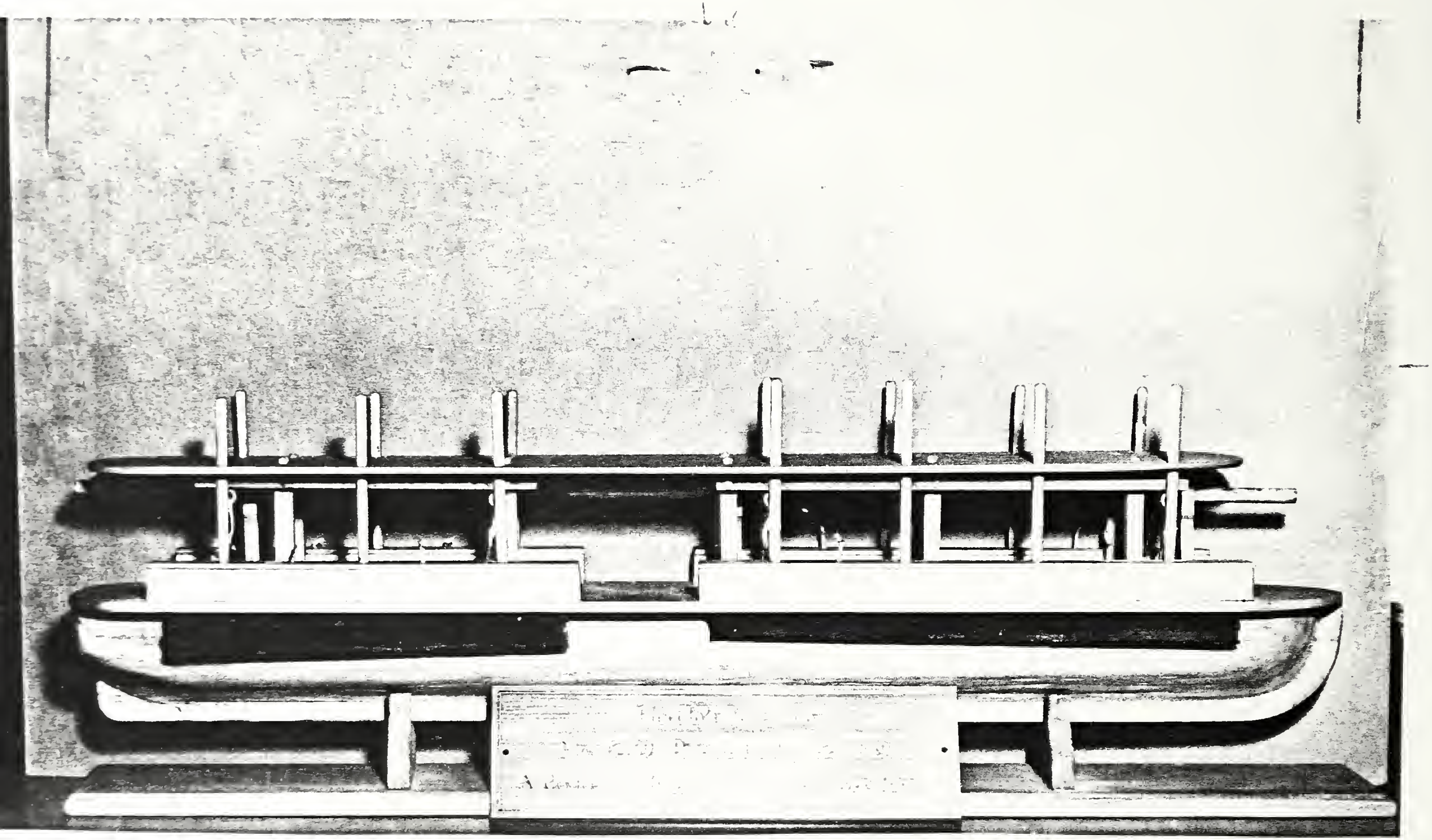
One of the most valuable of the government's unique collection of patent models, the finest in the world, is No. 6,469, granted May 22, 1849 to Abraham Lincoln for method of lifting vessels over shoals. The device consists of the application to a river steamer, of two or more collapsible floats made like bellows, worked from sides of boat by upright poles. When a vessel so equipped strikes shoal water the bellows are inflated by pressure on the poles, which is supposed to raise the boat clear of the bottom. When the bellows are to be deflated a windlass raises the poles.—N. Y. World.



MODEL OF ABRAHAM LINCOLN'S DEVICE FOR LIFTING VESSELS OVER SHOALS.

PHOTOCOPY
(original in safe)





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